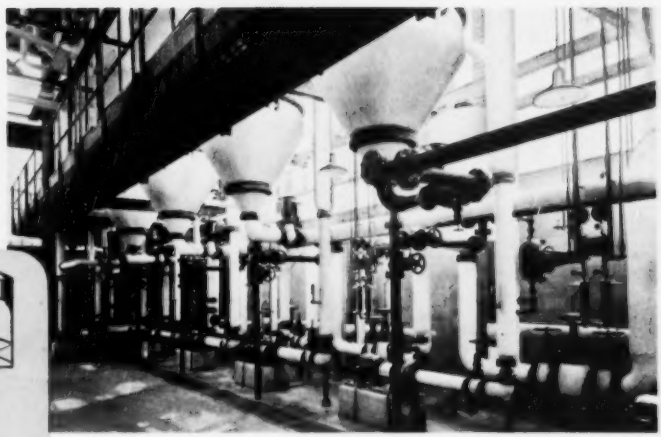
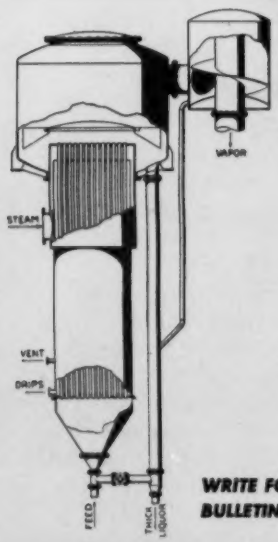
Paper
TRADE JOURNAL
AUGUST 4, 1949
PUBLISHED WEEKLY

SWENSON
L. T. V.
EVAPORATORS
for black liquor





WRITE FOR BULLETIN E-108

Efficient heat transfer	=	low first cost per unit of capacity
High capacity	=	low operating cost
Effective entrainment separation	=	negligible losses
Economical design	=	low installed cost
High steam economy	=	low fuel cost
Resistant to corrosion	=	low maintenance and long life
Flexible operation	=	adaptable to varying mill conditions and requirements

YES! GO WEST!
1949 Fall Meeting TAPPI
Portland, Oregon

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SWENSON EVAPORATOR COMPANY
DIVISION OF WHITING CORPORATION
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Mean More and Happier Customers

White paper manufacturers can improve their profit position by using higher percentages of short fibre pulps, i.e., more soda and less sulphite and sulphate. Sutherlands refine this cheaper furnish so much better that sheet brightness increases, formation improves, smoothness becomes greater (less super-calendering), and strength becomes higher—all this at increased speeds. And with greatly reduced power consumption and maintenance of stock preparation equipment.... Remember, Sutherlands develop the fibre strength without destroying the fibre length, thus producing a faster draining pulp. This means more money for you in higher production and more satisfied customers due to higher quality.... You'd be surprised at how fast Sutherlands pay for themselves. May we show you?

SUTHERLAND REFINER CORPORATION · **TRENTON, NEW JERSEY**

Manufactured in the United States by Valley Iron Works Co., Appleton, Wisconsin

Sutherland Refiner Ltd., Windsor Hotel, Montreal, P. Q.

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New Texrope Sheave Gives Lowest Cost

Instant Speed Control

- Covers most speed changing needs from 3 to 20 hp
- Very simple — one sheave does all
- Infinitely variable speed — 100% increase; 2 to 1 range.

THE NEW *Vari-Pitch* AUTOMATIC SHEAVE is the simplest, most economical method of instant speed control ever devised. You just move the motor forward to increase speed and move the motor back to decrease. The *Vari-Pitch* Automatic Sheave changes pitch diameter and holds the belts at proper tension *automatically*.

Now, you can cut unit costs by operating machines at most efficient speed . . . improve quality by compensating for material variation . . . with a very small investment in new equipment. Today, ask your A-C Authorized Dealer or Sales Office to give you complete facts and figures on how the new *Vari-Pitch* Automatic Sheave can save money in your plant. Or write for bulletin 20B7223. A-2767

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MOTORS — ½ to 25,000 hp and up. All types.

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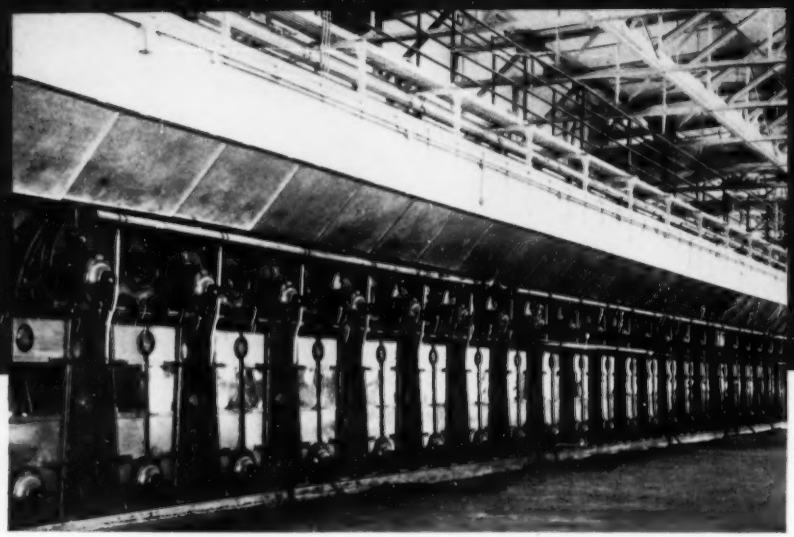
PUMPS — Integral motor and coupled types. Sizes and ratings to 2500 GPM.

ALLIS-CHALMERS

NOW!

WITHOUT STOPPING MACHINES



Use Texaco Ursa Oil X**... it cleans as it lubricates!

Now, for the first time, you can clean dryer roll bearings and circulating system oil lines without stopping your machines — without loss of production!

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When foreign matter stops collecting in your filters, *bearings, and systems are clean!* Then, you can *keep* them clean by continued use of *Texaco Ursa Oil X***. Throughout its extra-long service life it will keep your production high — your maintenance costs low.

Leading paper machine manufacturers approve and highly recommend the use of *Texaco Ursa Oil X***. A Texaco Lubrication Engineer will gladly give you full details. Call the nearest of the more than 2300 Texaco Wholesale Distributing Plants in the 48 States, or write The Texas Company, 135 E. 42nd St., New York 17, N. Y.

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FOR THE PAPER INDUSTRY

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EVERY THURSDAY

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MEMBER

ABP ABC

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Paper TRADE JOURNAL

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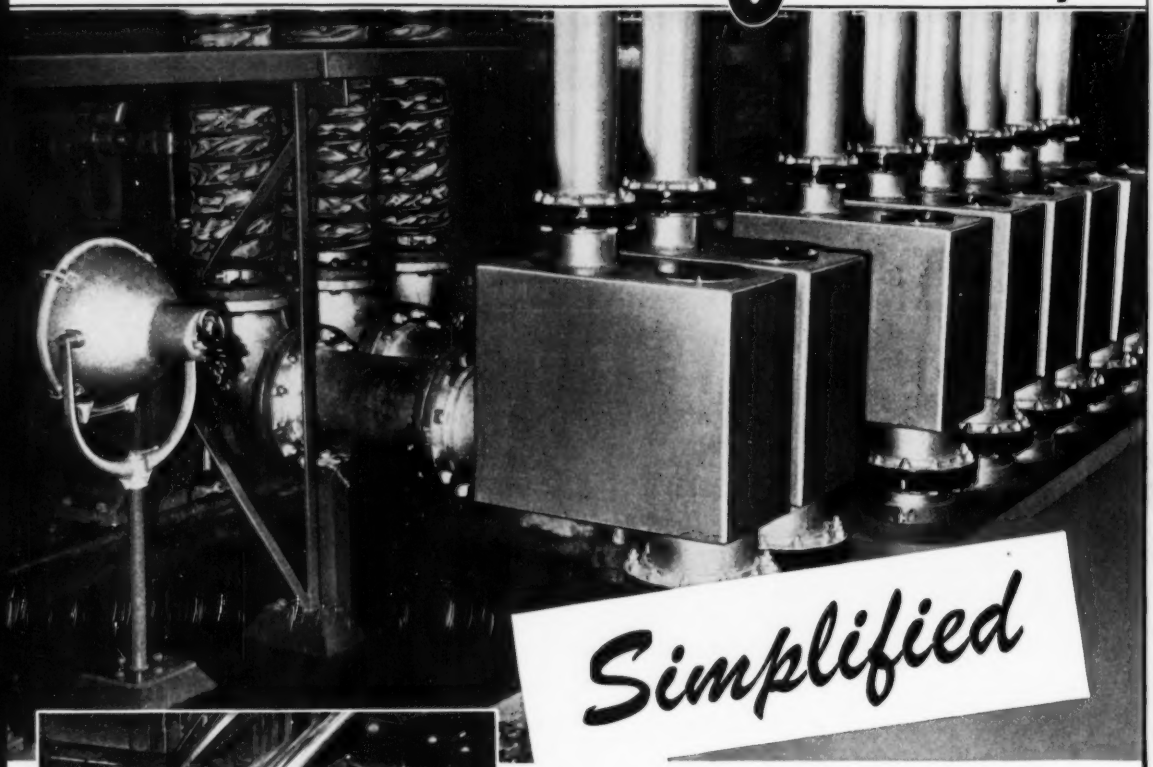
PAPER · · · America's 6th Industry



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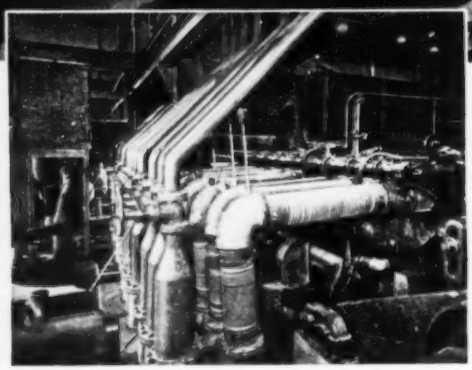

Above: new fourdrinier suction box connections on the latest Puseyjones Machines are simple, flexible.

Below: conventional cumbersome suction box connections were often a source of trouble.

Suction Box Connections

In the new Puseyjones Machines, each fourdrinier suction box is connected to the air and water header by a simple, single flexible connection. Gone is the cumbersome double hose connection that has always been a source of trouble and an eyesore to the machine operators.

This simplified suction box connection is just one of the many design improvements in the new Puseyjones Machines, improvements that mean higher speeds, lower production costs and improved competitive position. Let us give you the facts.

THE PUSEY AND JONES CORPORATION
Established 1848. Builders of Paper-Making Machinery
Wilmington 99, Delaware, U.S.A.

THE SIGN OF TRADE MARK SUPERIOR QUALITY

YES
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WEST
1949 Fall Meeting
TAPPI, Portland, Ore.

Paper TRADE JOURNAL

TRENDS

Office of the PAPER TRADE JOURNAL,
Wednesday, August 3, 1949.

Business Pickup Creeps In

Mixed with widespread reports of a noticeable pickup in general business, as well as in paper and paperboard orders, is an inclination to doubt its reality, a feeling that a sudden comeback can only be temporary if patterns of other economic adjustment periods are to be followed, and a mistrust of Washington's shots-in-the-arm. It is therefore reported that while orders for paper and board products gather a little in volume, they do not show any depth of buying for inventory — which would indicate a sound belief that reefs had been safely passed.

Pulp Market Firms

The pickup has been sufficient, however, to give a stronger undertone to the wood pulp market. Unbleached kraft in particular is strong at present levels. Reports indicate that southern unbleached kraft is being offered in larger quantities, though priced, quality for quality, at no reductions. Spot offers of Scandinavian unbleached kraft are known to be competitive with Canadian grades of lower qualities, but high grades of Canadian are firm at quoted levels.

Paper Consumption Above Production

NEW YORK—Production of paper and board for the first half of the year, based on preliminary data, was 9,700,000 tons, in comparison to last year's production for the same months of 11,138,000 tons, the APPA reports.

Record of Basic Demand and Production shows that during May the demand line leveled off at an index of 162.3, while the production index dropped to 155.9 points, leaving a gap of over six index points by which Basic Demand exceeded production. Overall production therefore has been below consumption in March, April and May of this year, at which rate, says the APPA a powerful "correction movement" is building up to counteract such overstocking as may have developed in the hands of merchants, converters or consumers during 1948. Should normal seasonal increases in Basic Demand (consumption) develop in August, this will give an added upward push to the level of production.

Export Trade

New Brazilian Restriction

WASHINGTON, D. C. — The Department of Commerce is awaiting further details on a new Brazilian importation restriction applying to hard-currency countries which, it is believed, will affect some American exporters.

As soon as further information is received, foreign trade interests will be advised, said the Department. Meanwhile, Brazilian importers must begin filing applications for import licenses early in August, with Brazilian action suspended on outstanding license applications and on licenses already issued—except where hard currency has already been obligated.

The Brazilian Government is understood to have prepared a "positive list" of commodities for which licenses will be required. Commodities not on the list cannot be imported at all.

Brazilian Imports

Among other items, Brazil obtained most of its soda ash and caustic soda requirements in 1948 from the U. S., this country being the source of 31,917 tons out of total imports of 58,312 tons of caustic soda, according to figures just reported; and 15,682 tons of soda ash out of a total importation of 40,013 tons during 1948. Caustic soda imports from all sources were valued at $11,761,850 for the year, and soda ash, $2,816,850.

Peru Modifies Tariffs

Peru also is modifying some tariff quotas, it is reported; and the Department of Commerce expects to notify the interested export trades as soon as details of the changes are available.

Anglo-Argentine Trade Treaty

BUENOS AIRES — Under the terms of the bilateral trade agreement concluded here on June 28 between Argentina and Great Britain, the U.K. will undertake to furnish goods through normal channels aggregating £92,535,000 per year over a period of five years. In return for this, the Argentine will supply products valued at £129,000,000, the bulk of which will consist of meat and feeding-stuffs.

The list of goods to be supplied by the U.K. to Argentine yearly includes paper and paperboard valued at £1,000,000. Specifically included in the list is cardboard, manila, ivory and other fine board, paper in discs for manufacturing matches, wrapping paper, insulating paper and board, writing and general purpose paper of all kinds, gummed paper, wallpaper, tissue paper for duplicators, carbon paper, vegetable parchment and similar paper, and aluminum-coated paper.†

Argentine Shortages

The Anglo-Argentine bilateral treaty does not specifically include photographic or shipping sack papers, shortages of which were reported existing in an Argentine announcement which antedated signing of the treaty.

Import quota of 15,000 kilograms of photographic paper (bromide and chloride size 9 x 14 cm) classified under tariff items Nos. 3,936 and 5,243 was granted by the Argentina Government to supplement the inadequate domestic production of photographic paper.

Shipping sacks were reported to have disappeared from the Argentine market by last February, with the supply then entering through the customs sufficient for only one month. Paralysis of the cement, lime and fertilizer industries was said to be imminent, and the question had been raised whether exchange was to be released for importing from Sweden a new supply of shipping sacks and paper for their manufacture. Local heads of cement and paper industries had been in daily conference with the Government concerning plans for alleviating the situation.

Argentina's wallboard market is particularly for plain, rigid, smooth-surfaced fiberboard, and is now supplied largely by Scandinavian and Finnish exporters, with a small amount produced domestically, the OIT reports. Figures available for 1939 and 1947 indicate that normal consumption of wallboard is about 10,000,000 sq. ft. annually. According to trade source, production at the new wallboard factory — under construction at Ramallo with Swedish machinery and Swedish technical supervision -- in excess of current consumption will be used as a substitute for plywood. Wheat and flax straw produced in the Ramallo region will be used for pulp.

† Source, *Foreign Trade*, Foreign Trade Service, Dept. of Trade and Commerce, Ottawa, Canada.

Vacation Week Indexes

Ratio of production of unbleached kraft paper to potential mill capacity for that product was 66.7 percent for the week ended July 23, compared with 62.9 for the preceding week, and with 96.6 for the corresponding week of last year.

Comparative ratios of U. S. paper and paperboard production to mill capacity, as reported by AP&PA, are:

	July 23 1949	July 16 1949	July 24 1948	July 26 1947	July 27 1946
Paper	82.9	‡76.3	103.1	106.1	104.2
Paperboard	76.0	64.0	91.0	99.0	95.0

‡ Revised.

Paperboard Production (Tons)

	July 23 1949	July 16 1949	July 24 1948
Production	158,764	137,034	175,182
New Orders	152,210	145,799	159,210
Unfilled Orders	274,241	282,174	360,981

Percent of Activity, Current, 76%; Year, 78%.

General Business Index

Index of general business activity for the week ended July 23 eased to 137.4 from 138.9 in the preceding week, compared with 149.3 in the corresponding week of 1948. Index of paperboard production rose to 156.1 from 151.2 in the preceding week, compared with 172.6 in the corresponding week of 1948.

LIFT YOUR PROCESSING TO A NEW HIGH IN ACCURACY

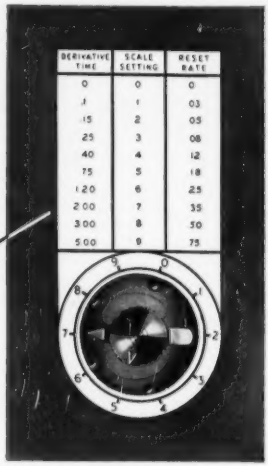
WITH BRISTOL'S NEW CONTROLLERS

Here is a new automatic control instrument that will

★ ***repeat*** **a previously-established action exactly as it happened the first time *every time you want it . . . or—***

★ ***duplicate exactly*** **the desired action in any like Bristol Series 500 Controller**

BRISTOL'S *Series 500 Air-Operated Controllers for temperature, pressure, flow, liquid level*



RESET, DERIVATIVE AND PROPORTIONAL TIME VALUES REPRODUCIBLE.

Adjustments are accurately calibrated and exactly reproducible. Similar settings in any Series 500 Controller will produce *exactly the same* values. This means you can replace controllers on a process with full assurance that such replacements will exactly duplicate the performance of the original. No more cut-and-try to arrive at the original setting . . . *saves hours by reducing shutdown time.*

These Features are NEW and EXCLUSIVE

SIMPLEST CONTROL SYSTEM TO SERVICE. Only one service adjustment is needed. The control units and parts making up the control system are so accurately designed and tolerances are so closely controlled that the system can be completely disassembled and reassembled, even with replacement parts, with only one simple adjustment needed to put the system in exact calibration. Almost anybody can service a Bristol Series 500 Controller.

FIVE TYPES OF CONTROL: on-and-off, proportional, proportional plus derivative, reset, reset plus derivative.

Investigate your new opportunity for accuracy and uniformity in automatic control. Write for new bulletin on Series 500 Air-Operated Controllers. THE BRISTOL COMPANY, 141 Bristol Road, Waterbury 91, Conn. (The Bristol Co. of Canada, Ltd., Toronto, Ont., Bristol's Instruments Co., Ltd., Lynch Lane, Weymouth, Dorset, England.)

here's why the new *Clark-Aiken* Cutter and Layboy increase cutter output 50% to 300% . . . . keep broke under 1/2 of 1%. ✱

Clark-Aiken
sustained-accuracy ROTARY CUTTER

Heavy Cast Frame, heavy tubing girts for rigidity. Insure accuracy, eliminate vibration.

Ball Bearings Throughout for smooth operation and accurate alignment at high speeds.

Length Constantly Maintained. Change-gear rough length adjustment and cone-pulley final adjustment insure accurate sheet length under all conditions.

Self-Sharpening Spiral Knife insures clean, sharp cuts on paper of any thickness.

Ball Bearing Slitters for clean slitting without dust.

Quick, Precision Adjustment of knife and squaring.

Infinite Paper Travel Speed Range — 0 to 700 feet per minute to suit working conditions.

Write for Bulletin 101

Clark-Aiken
sustained-operation LAYBOY AND DELIVERY

Heavy Rigid Cast Frame, instead of light structural shapes, minimizes vibration and wear, reduces broke.

Ball Bearings Throughout layboy and delivery for smooth operation, accurate alignment at high speeds.

Adjustable Speed Ball-Bearing Joggers. Smooth, free-working. Operated by their own 1/2 h.p. motor. Speed adjustable to any delivery conditions.

Rapid Pile Table Return — 59 seconds.

Fully-Adjustable Tapes. Variable speed take-off tapes eliminate jerking and tearing. Tape grip and tension adjustable for all conditions. Lower tape speeds adjustable for overlap. Adjustable tape guides. Tape travel speed synchronized with cutter operation.

Adjustable Air Pressure insures flat sheet delivery.

Write for Bulletin 201

THE *Clark-Aiken* COMPANY

PIONEERING IN PAPER MILL MACHINERY IMPROVEMENT SINCE 1828

Paper Mill Division
LEE, MASSACHUSETTS

✱ Based on sustained shake-down tests under actual mill conditions.

Paper TRADE JOURNAL

News of the Week

MILLS

Time Coating Mill Winds Up

KALAMAZOO — Production of coated paper at the *Time, Inc.*, coating mill, Kalamazoo, Mich., terminated July 15, according to Nicholas L. Wallace, vice-president.

The mill was acquired earlier this year by the St. Regis Paper Co., which plans to make it a part of the firm's Panelyte division for the production of Panelyte, a laminated plastic. Fred Goodwill, St. Regis resident manager, said he has been advised St. Regis will assume occupancy of the property Aug. 16. The period until Aug. 16 will allow a month for *Time* to wind up its activities in the last of the properties it formerly owned in Kalamazoo. In the future, coating operations will be carried on by St. Regis at its mill in Bucksport, Me., company officials said.

Mr. Goodwill said he has been notified only of the date St. Regis will take over the mill. Although several plans for the disposition of equipment have been considered, he said, no definite decision has been announced.

Manning Retired Joe Hayes

ALBANY, N. Y.—Joseph V. H. Hayes, treasurer of the John A. Manning Paper Co., Inc., Green Island, who retired July 1, has been succeeded by Arlie G. Smith, who was elected treasurer and assistant secretary at a quarterly meeting of the board of directors.

Other elected officers are: president, James F. Adams; vice-presidents, Francis E. Gallagher and Albert S. Loring; secretary, William H. Manning. Mr. Hayes will continue to serve on the board of directors which also includes Mr. Adams, Roland Eustace, Mr. Gallagher, Lewis S. Greenleaf, Jr., Mr. Loring, Mr. Manning and Mr. Smith.

Make Wallboard from Straw

DUBLIN, Ireland—The Irish Wallboard Co. Ltd., of Barrowford, near Athy, County Kildare claim that, with the exception of one Dutch firm, they are the only firm in the world making hardboard from straw instead of wood or wood pulp.

The engineers at Barrowford are satisfied that their board from Irish straw is as good as, if not better than, any other wallboard in the world.

Straw forms 98 percent of the raw material of the boards made at Athy, an interesting prospect in a country in which straw is abundant and comparatively cheap. Seven tons of straw produce five tons of hardboard.

The industry is closely knit with Ireland's economy, for it is powered by electricity, and the steam process which breaks down the straw is fired by turf.

The factory was built in 1939, but the supply and installation of plant was held up because of the war. In recent years Danish engineers and some 90 Irish technicians and workers have built up the plant, often under considerable difficulties. The factory has just started production.

The firm is Irish owned and controlled, with a capital of £300,000. The capacity of the factory, when in full production, will be over 8,000 tons of wallboard annually. It is anticipated that when the home market is satisfied that there will be a surplus for export.

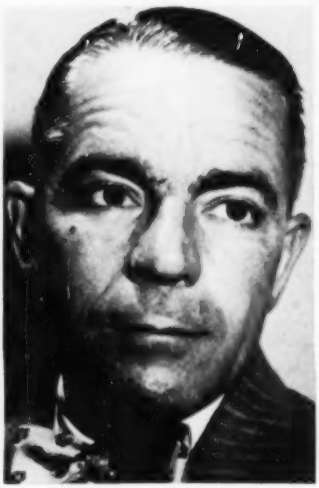
Hammermill Returns to Five Days

ERIE, Pa. — Hammermill Paper Co. discloses that effective immediately the mill is returning to a five-day week operating schedule. While most departments have been working five days right along, a few units such as the paper machines have been operating four and two-thirds days for the past few months.

A backlog of orders accumulated during the recent vacation shutdown, plus the gradual reduction in Hammermill's inventory, was reported as the reason for the increased operating schedule.

General Manager Donald S. Leslie expressed the hope that a pickup in business activity this fall and favorable results from the company's intensified sales efforts will justify further increases in operating schedules until full six-day operation is attained.

To date none of Hammermill's 2,000 men and women have been laid off due to lack of work.



ALAN B. HELFFRICH

—who until recently was general sales manager of St. Regis Paper Co. has announced formation of his own paper sales organization to be known as Alan B. Helffrich Co., 369 Lexington avenue, New York 17, Tel., Murray Hill 6-9077. Starting from college days as salesman for Orono Pulp & Paper Co., Mr. Helffrich held increasingly important sales posts with Price Bros., Eastern Corp., Fraser Industries and, finally, St. Regis Paper Co., from which he recently resigned. . . He is a charter member of the Salesman's Ass'n., of the Paper Industry and is currently president of that organization.

Sutherland's New Machine Rolls

KALAMAZOO, Mich.—The first paper produced in the Sutherland Paper Company's new board mill in the Standard division rolled off the new machine July 20. The machine trims 136 inches and will have a daily output of 200 tons a day. Sutherland's other four board mills have a total capacity of 350 tons a day.

The new machine measures 600 feet from wet end to finished end and is probably the largest unit of its kind in the region. The plant, built to house two paperboard machines, was designed by A. L. Sherwood, vice-president and technical director of Sutherland Paper Co. Construction of the new plant was begun July 16, 1947, and company officials estimate the cost at $4,000,000. The firm launched a major expansion program Jan. 1, 1947.

Sweet Joins Keith Co.

HOLYOKE, Mass. — James H. Sweet has resigned as vice-president in charge of sales and advertising of the American Writing Paper Corp., to become vice-president and manager of the Keith Paper Co. of Turners Falls, it was announced on July 25.

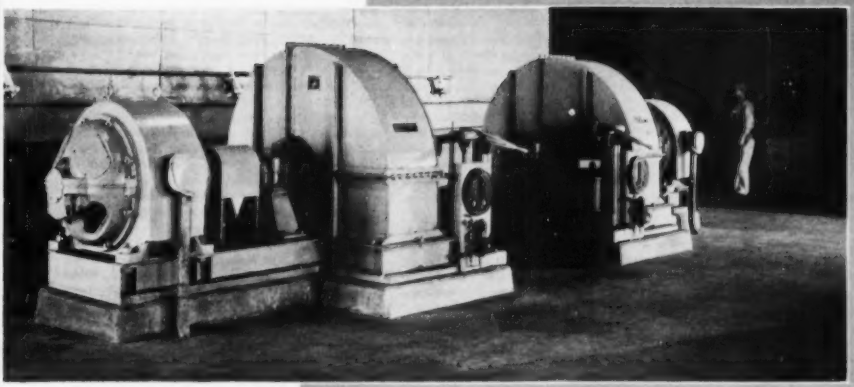
John G. McNaught has been appointed general sales manager in charge of sales and advertising for American Writing Paper, succeeding Mr. Sweet.

Mr. Sweet had been with AWP since 1929, and for the past eight years held the position which he has resigned. Mr. McNaught has been with the company since 1920, and has been sales manager of merchant papers since 1940.

1,775,000 POUNDS

Of Super-Heated Steam Per Hour

using dependable "Buffalo" DRAFT FANS



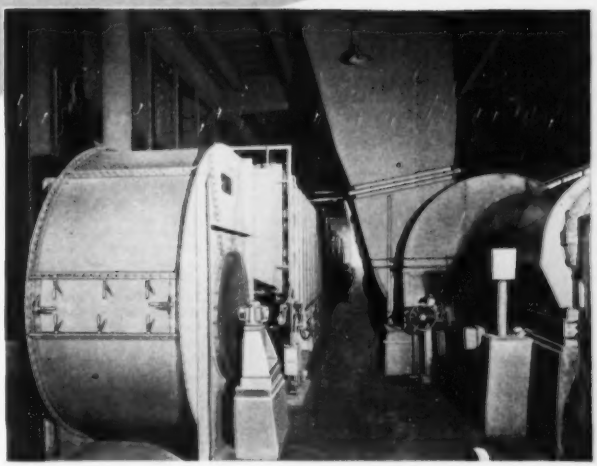
PRIMARY AIR for drying coal in pulverizer and conveying to boilers in dust form is supplied by "Buffalo" constant speed fans, two per boiler, driven by 200 HP motors. These fans HAVE to be rugged, and they are!

MODERN 60-CYCLE PLANT OF NIAGARA HUDSON SYSTEM HAS 320,000 KW INSTALLED CAPACITY

The "Buffalo" Draft Fans you see in the photos are continuously supplying two boiler units at the Huntley Station of Buffalo Niagara Electric Corporation, a unit of the Niagara Hudson Power System which serves much of Western New York State.

The output of No. 65 boiler is 900,000 pounds of steam per hour at 900° F. No. 66 boiler turns out 875,000 pounds at 950°F. Each boiler is in continuous operation for a one year period.

Here is gruelling fan service! 24-hour-a-day erosion of hot fly-ash on blades and housing surfaces of the induced draft fans—week in, week out handling of enormous volumes of air by the forced draft fans and primary air fans. And these fans are doing it without letup or timeout because "Buffalo" builds them HEAVY IN THE RIGHT PLACES.



SECONDARY AIR is supplied by "Buffalo" Forced Draft Fans installed at top of boilers, two per boiler. Rotor Speed is controlled for desired volume by variable speed couplings. Forced Draft Fan at left above is driven by 400 H.P. motor. Induced Draft Fan, right, has 1250 H.P. motor.

"Buffalo" FIRST FOR FANS

BUFFALO FORGE COMPANY

159 MORTIMER ST. BUFFALO, NEW YORK

Canadian Blower & Forge Co., Ltd., Kitchener, Ont., Branch Offices in all Principal Cities

VENTILATING FORCED DRAFT | AIR WASHING COOLING | AIR TEMPERING HEATING | INDUCED DRAFT PRESSURE BLOWING | EXHAUSTING

Tinker Discusses Government And Forest Control Trends

Speaking for Paper Industry at M. of U.

ANN ARBOR, Mich.—Addressing the faculty group assembled here on July 28 for the University of Michigan Summer Session Lecture Series, subject of which is "Natural Resources in World Affairs", E. W. Tinker, executive secretary of the American Pulp & Paper Assn. spoke out for private industry on "Government Policies and Our Forest Lands (Quo Vadis)". Opposite side of the picture was presented by Anthony W. Smith, an attorney speaking for the Industrial Union Councils.

Existing basic differences in political philosophy were discussed in Mr. Tinker's address, as follows:

For a long time I have been impressed by the fact that individuals addressing gatherings such as this should first be required to state their qualifications to testify or express a viewpoint. A vast amount of time and energy is expended in these effervescent times in listening to and recording the viewpoints of people, frequently with unique and sometimes dramatic ability to express themselves but who, from the standpoint of experience, training and real knowledge of the subject under discussion, are not qualified. I would, therefore, like, before making any statement, to present my credentials in justification of my placing before you my judgment with respect to governmental policies as related to natural resources.

By training and experience I am a forester although over the past decade I presume I would be classified as a business man. The twenty-five years spent in the application of knowledge gained through my professional training combined experience in private and governmental employ. The many years I have spent in the Forest Service, graduating through most of the jobs available within that organization, which culminated with my service as an Asst. Chief of the U. S. Forest Service, left me with distinct views that I am glad to express. I hope your consideration of these views will not be prejudiced by programs and actions that were evolved and processed by me in my official capacity. The success of the forestry program in the U. S. is vital to the welfare of the pulp and paper industry, with which I am now connected. This is fully appreciated by the industry and I make no apologies for it because this great industry is engaged in a forestry program of which it is proud and which will assure not only its permanence but its expansion because of assured forest production. I am familiar with many of the programs of individual companies in different regions of the U. S. and Canada. I am sure you will agree that forestry plays a vital part in the whole question of renewable natural resources.

The opportunity to discuss with you governmental policies in relation to natural resources was appreciated because of my great interest in the basic public policy involved. Had this public policy been determined two or three decades ago and been adhered to, then, in my opinion, most of the objectives outlined for this program would have been more nearly attained. The necessity of wise use to maintain our standards of living would have been appreciated to a greater extent and the importance of natural resources as the basis for material prosperity would have been an accepted fact.

The subject "governmental policies and natural resources" can be approached from two angles. If the private enterprise system is to be maintained in the U. S., then we approach the subject in one way. If our form of government is to be changed to one of collectivism or socialism, then we must approach the matter from an entirely different angle. I am unwilling to assume that the Constitution and Bill of Rights, upon which our form of government is based, will be changed. However, in the outline that was handed me one of the questions specified with relation to the general subject "governmental policies and natural resources" was "promotion of conservation by public ownership and control." I am quite aware that there is a school of thought that assures this to be the answer. If we approach the subject honestly we face the question of determining a public policy on the basis of our existing form of government or use an assumed need under the banner of protection of our natural resources as an entering wedge for socialism or collectivism for which public ownership and public control are symptoms, in fact the very cornerstones.

The conservation of our natural resources is, of course, an essential national objective that is almost axiomatic. However, because it appeared to have popular appeal, the phrase has too frequently been used by people with extremely limited knowledge of the subject, and particularly of what is actually being done, as a platform from which to preach different forms of demogoguery. Others, with their own individual or collective interests to promote, have followed a like pattern. In the meantime, in as far as I can determine, no master plan or no controlling policy has been formulated and the present leadership that evidences itself to the public, confines itself to two solutions, both of which are repugnant to our general conception of the dignity of the individual in the United States. The solutions offered are public ownership and public control. If my understanding of the principles of American government is correct, there has been and is a place for public ownership and public regulation where necessary in the public welfare, but our conception of individual rights is based on the premises that both public ownership and public regulation should be kept to a minimum. This brings us to the point of consideration of the necessity for governmental participation in the field of natural resource, conservation and management, and our major concern in this field apparently lies in the renewable resource problem. Largely through research and the development of new processes, it is my understanding that within the mining industry and oil industry wasteful practices have been cut to a minimum and the elimination of these practices, by these industries, has been achieved with profit to the industries involved.

Perhaps a little historical review will bring out and emphasize the change in policy of the federal government with respect to public ownership of forest land. It will be recognized that at the moment federal ownership far exceeds any other ownership in America. Under the Articles of Confederation, if I am correctly informed, the federal government owned no property, except possibly a few federal buildings. Following the adoption of the Constitution it did become the owner of a tremendous acreage of land as yet unoccupied, largely in the Northwest territory. Its ownership was greatly increased through the purchase of Florida from Spain and Louisiana from Napoleon, the settlement of the dispute with England about the Oregon territory, the Gadsden purchase and Seward's purchase of Alaska, as well as the settlement of the question involving the territory of California. During all of this period and up to about fifty years ago, when the so-called conservation movement started, the basic policy was one of encouragement of private and corporate ownership and development, as witnessed by the various homestead acts, grants to colleges and railroads, as well as the encouragement of mining operations through the legalizing of mining claims. All of these moves pointed to the intent, based on initial government policies, of ceasing to be an owner as rapidly as possible. With the initiation of the conservation movement, this basic policy was changed as witness the setting aside of vast areas for park, forestry and grazing purposes. These areas were, of course, confined to the more rugged and least desirable lands for the simple reason that under the various laws existing at the time, agricultural lands were first settled and developed. Perhaps it is a fair assumption that had the question of potential soil erosion been recognized and subject to public debate, prior to the settlement of our agricultural lands, they too might have been reserved from settlement, presumably to protect the public interest and to assure proper usage. What this would have meant in the development of the middle western states, it is perhaps a little hard to conceive. However, it seems clear that the principles now being advocated would apply with equal force to the then existing situation. One of the basic tenets of this government revolves around the right of private property. While this is under attack elsewhere in the world and to a certain measure here, we still have not repudiated this basic principle. It is, therefore, inherent in its operation as an owner that the government should not engage in fields competitive with private enterprise. On the contrary, it should encourage and make use of private enterprise and the derivation of private profit. It seems to me clear that the policy of developing private ownership of land was a tremendous force in the development of America. A proposal to return to that policy, in connection with forest lands, is certainly worthy of debate.

It would be impossible for me to cover all of our renewable natural resources and, therefore, I would like to discuss with you the nation's forest problem, partially because it is one of the largest and most prominent in the public mind, and partially because I am very familiar with it and my industry is greatly concerned about it. Excluding Alaska there are 624,000,000 acres of so-called forest land in the United States today. This represents about two-thirds of the original forest area. Of this total, 460,000,000 acres are considered as commercial and suitable for the production of merchantable timber. Potentially, I am informed that it is the viewpoint of government agencies that this area of forest land can supply, or has a potential capacity for production to supply most generously, all of our domestic requirements and put us into the export market on a very liberal basis. One quarter of this vast area of forest land is already in public ownership. Therefore, I presume for the purposes of this discussion, we can confine ourselves to the remaining three-quarters, the ownership of which rests in private hands. What is the public responsibility with respect to this 345,000,000 acres of privately owned taxpaying land?

The greatest forest conservation problem in the United States has been and still is the elimination of excessive damage by forest fires. The solution of this problem involves conditions that indicate the necessity for public participation. In many respects it is not different from the conditions that have required the organization and support of municipal fire departments. Obviously the situation calls for regulations that will prohibit the creation of excessive hazards and organizations that can function effectively regardless of artificial boundary lines. Under the provisions of the Clarke-McNary Act a sensible and effective arrangement of federal, state and private cooperation, and sharing of the burden, has been developed and it seems to me beyond question that the public action that has been authorized by the Congress and by most of the states, is justified, and that private participation has been required on a reasonable basis. As far as I know, this program has commanded universal respect and support.

The justification for public participation in the problem of forest fire control applies with equal or greater force with respect to insect and disease control. Here again, the artificial boundary

lines of individual ownerships present no barriers and no individual owner is in a position to protect himself. In some degree there is a further justification for public participation because of the vast areas of timberlands now in public ownership, which would be placed in equal jeopardy with private holdings in case of epidemics of insect or disease. This particular problem has received recognition by the Congress although, in the pulp and paper industry, there is concern that no overall plan has been developed that gives promise of the most efficient use of available resources or ability to combat forest tree diseases, or insect infestations, while in the endemic stage.

There is a third field, in my opinion, that justifies public participation in those problems relating to our forest resources. It seems to me clear that in the field of fundamental research the public interest requires public action to assure the maximum use of the resource and the development of new fields of utilization beyond the fact that the owner cannot be generally equipped for fundamental research, involving all species of wood. The enormous quantity of stumpage in public ownership gives some justification for the Government itself to develop new markets for wood. Let me make it clear that in discussing the subject of research, I distinguish between fundamental and applied research. In my judgment the industrial enterprise of the United States has proven that real progress in applied research can best be obtained when inspired by the profit motive. The pulp and paper industry has been greatly interested in the work of the United States Forest Products Laboratory at Madison, Wisconsin. We have strongly supported the activities of this institution but this support has been specifically directed to the use of funds available for fundamental research and not in the field of applied research because the industry feels, and it is a research-minded industry, that applied research is an individual or corporate responsibility, the cost of which should not be borne by the public.

Before giving you my viewpoint with respect to the limitations that I believe should be put upon public ownership and regulatory controls, I would like to review a little bit of the history of the forest problem of the United States.

The evangelical enthusiasm with which those who would set themselves up as saviors of the nation's forests have condemned the lumber and other industries because of forest devastation in the United States is generally accepted. No doubt in retrospect it gives great satisfaction to the individual to point out the sins of his forebears. However, it has always seemed to me that with an unbiased view, recognition would be given to the tremendous public pressure to clear land for agricultural purposes, to feed a hungry nation, to produce material for construction purposes, and in general to utilize the available forest resources to the maximum degree, and with the maximum speed, to expedite the development of the country. Admittedly, poor forest practices were used. Admittedly, some land was cleared which probably should not have been cleared. However, there is the valid question—if, in the national interest, the game was not worth the candle? Let us not be too critical of those enterprising citizens who pioneered the country's development with enthusiasm and perhaps an element of ruthlessness because it seems doubtful if, in the light of knowledge available to them, any other course would have received public acceptance.

Probably the State of Michigan, more than any other state, is held up as a classic example of the devastation wrought by pioneering lumbermen and by uncontrolled fires. This devastation was regrettable but I am not prepared to say that the sacrifice made was not justified by the contribution that resulted in the building of homes, vitally needed in the upbuilding of the middle west. Let us not forget that at the time forestry, as we now conceive it in this country, was practically an unknown factor.

Of course it is the present and future situation that we are now concerned with. In judging this situation and its requirements, it seems to me that our conclusions should be drawn not on the basis of past history but upon the facts as they exist today and upon the outlook for the future. Some public agencies, private individuals and organizations are recommending two forms of public action; the first involves a vast expansion of public ownership of forest lands and the second, federal regulation of the remaining forest lands in private ownership. I think I can say with certainty that the viewpoint of the owners of forest lands is contrary to that of these agencies and organizations. In general, private forest land owners and many leaders of thought in this field, as well as some semi-public organizations, feel that the progress that is being made under the incentive of the profit motive will bring about good forest land management on private holdings, as rapidly as there is economic justification for such management. It is their view that drastic steps in the form of socialization of the problem, or federal regulatory controls, are contrary to the general precepts of our form of government and not justified in any degree by the situation as it exists today. A report issued by the United States Forest Service in 1948 indicates that on some 51 million acres in some 400 properties, of more than fifty thousand acres each, chiefly lumber and pulp company holdings, the cutting on 68 per cent is of a good or high order. The same report indicates that the real problem lies within the remaining three-fourths of the forest land in private ownership, or 261 million acres. This area is held by more than four million small owners of properties averaging only 62 acres each. On these lands 71 per cent of the cutting is poor or destructive, according to the report.

Presumably, since the problem according to this analysis lies within the 261 million acres owned by four million owners, largely in the form of farm woodlots, the governmental participation in this problem in the form of greater public ownership and regulatory controls, will be applied in this area. To me this is just a little bit inconceivable. The mere policing of regulation of four million owners would be a terrific undertaking. A great number of employees would be involved and with four million owners and their families concerned, I have serious doubts as to the practicability of this approach or its permanence. Certainly a high degree of resentment would be aroused and this resentment would ultimately become vocal. The practical, political aspects of the situation must be reckoned with, regardless of our views as to the moral justification for public regulation. Of course it is no doubt true that there is some public complacency towards regulation of this sort when applied to someone else, but in this case the other fellow is numerically pretty strong and there is little doubt that his resentment would run to a high point.

In as far as my own industry is concerned, the tremendous investments required for plant installation, have necessitated consideration of the permanence of the supply of wood as a raw material. There isn't a company in the industry manufacturing pulp that hasn't given this question most serious consideration. There has been a tremendous expansion in taxpaying company owned timberlands, the total now approximating twenty million acres of land that is being held for forestry purposes as a permanent part of the companies' plant set-up. Only last month, in the State of Michigan, some 900 thousand acres of land owned by pulp and paper companies and by lumber companies was dedicated as "tree farms" under an industry sponsored program and this dedication indicates at least the intent to maintain these properties for tree growing as a productive enterprise. This sort of action on the part of private ownership has over the past decade made tremendous strides. Any refusal on the part of public agencies or semi public organizations to recognize the vast growth in private forestry is unrealistic and indicates excessive influence of an inherent desire to expand governmental functions in this field. It is a vast and complicated situation and the evolution is slow, but nevertheless a realistic approach to it will indicate beyond a doubt that private initiative and private ownership, as the economics of the situation justify, will meet the public requirements.

There are other elements in the picture that should be recognized. In mountainous areas the need for proper watershed protection on interstate waters obviously justified the setting aside of vast areas of public domain in the national forests and national parks. There is little doubt that in the Appalachians, the acquirement of certain critical areas for this purpose was justified. Congress has recognized the watershed protection problem and so far as I know this program is not now subject to controversy.

Up to this point in discussing the proper functions of government in the forest land problem, I have not touched upon the place of education in the picture. Since the ultimate solution involves the practices of some four million individual owners, there is little doubt that research, demonstration and education are needed. These individual owners are not in a position to carry on a research program. It is my view that the federal research should confine itself largely to that of a fundamental character. Beyond those basic problems that are common to all species and geographic locations, it seems to me that the most effective job can be done by the states. I believe most states have facilities as far as personnel is concerned, at their Universities and State Colleges, and in addition they have knowledge of local conditions and are sensitively aware of local requirements. Further than that, they are subject to local scrutiny with respect to progress or lack of progress. The educational work that has been done through the medium of the land grant colleges in the agricultural field has been a proven success. It seems clear that the same medium and the same processes, applied to the forestry land problem, offers the logical and effective solution. I might say in passing that it is a matter of almost continuous surprise to me to witness the apparent lethargy on the part of state authorities to the surrender of their natural prerogatives and functions to federal agencies.

Somewhat aside from the forest land problem but distinctly involving it, is the move in recent years to establish valley authorities. You are quite aware of the present plans for a vast expansion of these so-called valley authorities. Regardless of the merits of individual cases, it should be recognized that they represent an almost complete surrender of state and local authority in matters involving land management. I can appreciate the vulnerability of state and local authorities to proposals of this kind because they invariably represent programs involving the expenditure of vast sums of federal money. However, carried through to final fruition, they can easily usurp what we have conceived to be state and local governmental functions on a large percentage of the area of the United States. My personal view is that this is unnecessary and undesirable. Further than that, I believe public thinking is being influenced by a promotional group, that is almost completely uninformed with respect to the real facts. This group has been organized and inspired to advocate this tremendous expansion in federal control and operation.

Before I summarize my views with respect to the subject under discussion, I would like to make it clear that I fully appreciate that there are many problems involved beyond the question of forest land. However, time does not permit me to discuss the question of soil erosion, the conservation of fish and wild life, or the question of public recreation. Were I to discuss these subjects I am sure that the general pattern that I would prescribe for the place of government in the forest land problem would apply in its broad aspects to other fields.

To summarize, were I in a position to do so, I would limit federal functions in the field of

natural resources to fundamental research on problems having interstate application, and to problems that must be solved in the interest of the effective administration of federal properties. Federal participation in educational or protective measures should be limited by the extent to which the situations involved are of national import and interstate in character.

With respect to state functions, it is my belief that state action should be limited to that necessary in the interest of multiple ownership and the general welfare of the people of the state. This might go so far as state regulatory controls, where the action of one owner may jeopardize the property of another. The states have a natural function in encouraging the intelligent development of their natural resources. This involves the consideration and development of programs of research and education. State ownership of natural resources should be restricted to property not susceptible to private management because of economic factors. To the maximum degree, interstate agreements should be utilized in the solution of interstate problems.

It seems to me that the relationship of government to the problem of conservation of natural resources raises a basic question of national policy. Are we to depart from, or perhaps I should say return to, our basic conception of building up our national economy on the basis of individual private initiative or are we to travel the road of increased governmental participation and further socialization? Has the sense of adventure of the American people been so dulled over the past sixteen years that we have come to prefer collective solutions of our problems with resultant limitation of private opportunity. You and I may have our individual opinions in this matter but I feel justified in at least asking those who advocate the further expansion of government controls over our private lives and our private businesses to do so with their eyes open. Perhaps the well cushioned path of security, regardless of individual effort, is so attractive that the rougher and more adventurous road of private enterprise has lost its charm, at least to the younger generation. I presume the teaching profession will have more to do with the ultimate decision than any other group. The responsibility is a serious one as it involves the ultimate welfare of the people of the United States and in my judgment the ultimate greatness of our country. I presume you have no doubts as to which path I would choose to follow.

Suggestions Earn CWP Awards

COMAS, Wash.—Crown Willamette Paper Co. last week announced 28 awards of $5 each for suggestions contributing to plant efficiency:

H. R. Baldwin, for lower light over kraft flat screen circulating oil pump; Lawrence Blair, change shower pipe connections on No. 6 machine; Edward Darrington, quality suggestion slogan; Robert Dexter, longer crank shaft on No. 10 machine shake.

Elmo F. Eby, reel or rack at No. 9 winder for air hose; Jack Eby, rack to hold rolls at No. 1 machine; L. H. Eggebraaten, changes to No. 4 slice so that it can be lowered or raised from front side; Essen, Tietz, Hoskins, Golliher, crumb catcher on top couch; H. O. Hinze, three-way valve to bypass mordens;

E. E. Hoffman, lower light over gage board on No. 1 oil tank; Donald Lewis, numbers on rewinders in No. 1 finishing room, to avoid confusion; Leon P. Marczak cover for motor, high pressure water pumps for beater room; R O'Harra, air pipe at No. 15 doctor to blow sheet to backtender; H. L. Ostenson, removable step platform at North side of No. 14 machine; Alfred Paris, change flow meter from No. 15 reclaim chest to machine stock chest in beater room;

Erma Powell, vacuum door closer on beater room office door; Joe Russell, longer doctor blades for No. 10 machine; Louis Stebbins, move switch box for welding from ground floor to 2nd floor of chip plant; A. D. Timmons, metal plates on scale house in Scott's Hole; sturdier walk on front of No. 2 supercalender; W. G. Webb, steel arms to replace cast iron arms in hoists on No. 14 machine;

Keith Dedmore, door at opening in the back of No. 22 kraft chest, to keep kraft from splashing on wall and floor; Roy Johnson, turn drain pipe in filter weir so water will not dam up ditch; Hubert B. King, air tight damper in air pipe for 3rd stack on No. 8 machine;

F. Lovett, place unfinished plug rolls on pallet board and skid at machines; Henry Schwartz, tongue and groove deck over water flume at settling basin; Bernard Zollo, install flood light on I beam on South side of winder, to be used when running IBM.

Employe Rewarded for Suggestions

DALTON, Mass. — Crane & Co. has awarded $2,532.80 to 38 men who submitted cost-cutting suggestions in the past four months, it was announced recently.

The total number of the accepted suggestions was 46 with awards ranging from a low of $5.00 to a high of $2,105.75 which went to Charles B. Snyder, Government mill employe.

Employes listed as receiving payment for acceptable suggestions were: Samuel H. Bailey, Donald Baker, Miss Madeline Ball, William C. Belcher, Edward C. Bills, Elek C. Boraski, Clair Bradley, Charles A. Calkins, Chester V Controy, Francis W. Converse, George H. Cushine, Charles DeAngeles, Fred Drosehn, William Drosehn, Joseph W. Gazaw, Richard W. Gero, Norman Goodermote, Russell Jones, Ralph L. Kendell, John Kelly, John S. Kennedy, William T. Kirby, Gilbert D. Kittredge, Michael O'Keefe, Albert O. Prince, Miss Dolores Pierce, Wilbur V. Pomeroy, Bart J. Poopor, Edwin Reynolds, Raymond White, Thomas E. Rochelo, John Ryan, Edward A. Shook, Charles B. Snyder, John Stavaski, Charles Wellspeak, Llewellyn B. Tucker and Ralph F. Williams.

Weyerhaeuser's New Fiber

LONGVIEW, Wash.—Silvacel, an insulating fiber for cold storage and locker plants, will be promoted in the west during the coming year by Weyerhaeuser Timber Co. The material is made from clean, sound Douglas fir wood fiber which has been chipped, shredded, fluffed, dried, and specially processed to assure proper felting characteristics and a low thermal conductivity, *Forestry Digest* reports.

Westvaco's Petrick Joins N. Y. Sales

NEW YORK — Edward H. Petrick, who has been in charge of the technical service and development department of the Covington, Va., plant of West Virginia Pulp and Paper Co., will join the company's New York sales force, it has been announced. Mr. Petrick, whose job at Covington dealt with many technical aspects of producing container board for the manufacture of corrugated boxes, will be in charge of the Board Department of the sales force. He will assume his new duties about August 15.

Starting work for the company as a chemical engineer in the Recovery Plant at Covington in 1937, following his graduation from the University of Pittsburgh, Mr. Petrick gained a broad technical knowledge of paper and board manufacture by working at a variety of jobs throughout the mill. He was a foreman and engineer in the No. 1 Rotary Room, the No. 2 Evaporator Room, the Kraft Digester Room and Caustic Liquor Works. During this same period he was often assigned to special work on the paper machines. About two years ago he was assigned to the Research Department, where he devoted much time to the development of quality and characteristics in board and the study of performance in customers' plants. The technical and engineering knowledge gained during this period particularly qualifies him for his new post.

Gair in Pallet Production

NEW YORK — Manufacture under license of the Addison-Semmes new lightweight expendable pallet made from corrugated materials has been commenced by Robert Gair Company, Inc., New York, manufacturers of folding cartons and containers. These pallets are being made at the more than twenty Gair plants in the Eastern territory.

The pallet is made from "logs" of various diameters rolled from single faced corrugated board on special Addison-Semmes machinery, with corrugated sheets glued to top and bottom of rows of logs, thus making a strong skid. Not only does this pallet permit stacking of multiple package loads, but it also permits designing of a large "Power Pack," which is a single corrugated container of approximately 64 cubic feet, to carry safely loads of up to 4,000 pounds in one unit.

Henning Joins Champion

ST. LOUIS, Mo.—Everett E. Henning, formerly manager of the fine-paper department of Central States Paper & Bag Co., has joined the St. Louis sales office of the Champion Paper & Fibre Co.

Cowie Estate, Recreation Spot

FULTON, N. Y. — The Oswego Falls Corp., headed by Frank Ash, has purchased the Stony Island summer estate of the late Alexander H. Cowie, and is using it as a summer recreation center.

Westvaco Stresses Safety

New Construction Starts

TYRONE, Pa.—The safety program of the local plant of West Virginia Pulp & Paper Co., one of the most effective in the paper industry during the past year, will be further intensified as the plant's $1,000,000 construction program goes into full swing.

The plant management announced that the broadened safety program would be directed by Robert K. Meredith, part-time safety director of the plant since May 1945, who will now devote his full time to accident prevention activities. Mr. Meredith and members of the plant Safety Committee are completing a survey of the mill to determine the additional safety measures necessary to guard workmen against accidents and injuries while five major construction projects are being completed, it is stated.

Although the bulk of the construction and installation work is expected to be completed while the plant is shut down for a period of three weeks, some of the finishing work will be done after the plant has resumed operations. The projects include the installation of a machine coating unit and major changes to No. 3 paper machine; construction of new roofs and improvements to the paper machine buildings; construction of a settling basin; installation of dustcollecting equipment; and repair of the Bald Eagle reservoir.

Among the tasks facing the Safety Committee will be familiarizing operating employees, many of whom will be used on installation and maintenance work, with safety factors of new jobs, and employees of outside contractors with the safety routine of the mill. One step being taken to keep the plant's safety record at its present high level is the appointment of safety leaders to keep continual check on conditions and work methods at key construction points throughout the plant. The committee also plans to step up its safety education program by installing additional bulletin boards in departments where the work is being carried out.

The Safety Committee hopes that its emergency program will be effective enough to maintain one of the most enviable safety records in the pulp and paper industry. For the 12 months ended June 30 the plant had only one lost-time accident. This record has won for the plant the 1949 Group B Award in the Paper Industry Safety Contest, sponsored by the National Safety Council. To win the award the Tyrone plant completed almost 2,000,000 man-hours of work with a single injury, to top a field of more than 62 paper mills in the Group B competition. The accident-frequency rate in the paper industry as a whole during the same period averaged more than 22 lost-time accidents for 2,000,000 man-hours worked. In recognition of Tyrone's achievements the National Safety Council will present a bronze plaque to Mr. Meredith at the organization's annual convention in Chicago, October 24.

Tyrone also has been sweeping all safety honors in the company. In competition with the company's five other mills, for three consecutive years Tyrone has won both the President's Trophy for improvements in its accident frequency rate and the cash award contest for the lowest frequency rate of the year. The plant currently is leading in both contests again this year. The company contest ends as of October 31.

Mr. Meredith, who has shown a marked interest in safety since he began working for the company in 1925, helped put into effect Tyrone's present safety program in May 1945. At that time he was appointed safety director of the Tyrone mill, in addition to his regular duties as assistant superintendent of the carbon plant.

Based on employee interest and cooperation in safety matters, the Tyrone system began showing results soon after it was installed. Although the basic plan has gone unchanged, the program has been broadened and improved considerably over a period of four years. Every employee in the plant now is a member of one of 32 safety groups, which participate in intra-plant safety conditions. Twice yearly safety award dinners are given for the groups working six months without a lost-time accident.

The Safety Committee, made up of representatives from the 32 safety groups, meets semi-monthly to discuss and carry out a thorough and effective safety program in the mill. Among its activities, the Committee carries out an extensive first aid program, maintains and inspects first aid equipment, directs an effective safety education program for employees through mailings, bulletin board messages and instructional meetings, conducts a monthly employees safety suggestion contest, and carries out regular inspections in the mill to guard against hazardous conditions.

Mich. Superintendents Elect

KALAMAZOO, Mich. — The Michigan division of the APPMSA on July 26 elected William F. Hathaway, paper manufacturing manager of Kalamazoo Vegetable Parchment, to head the group for the coming year. The election was held as part of the organization's annual sports and field day at the Kalamazoo Country Club.

Hathaway succeeds Herbert B. Johnson, Allied Paper Mills. O. W. Callighan, Edgar Brothers Co., who was secretary-treasurer, was elected first vice-chairman; William Shaw, Michigan Carton Co., Battle Creek, second vice-chairman; and Richard H. Peeters, St. Regis Paper, was named secretary-treasurer to succeed Callighan.

Division members and guests participating in the day's gold tournament number 41, and 96 attended the dinner.

Andre Salmon Homeward Bound

NEW YORK—His six-months visit at an end, Andre Salmon of the firm of Papeteries Maunoury, Paris, France, returned home on July 28, passenger on the SS Washington. A guest of A. George Lutz of 280 Madison avenue, New York, from his arrival on Jan. 14, Mr. Salmon visited numerous U. S. paper mills and merchants, studying methods and merchandising.

Through its contacts as selling agent for seven French paper mills—which includes all types of paper and paper boxes except newsprint—Mr. Salmon's firm, Papeteries Maunoury, 9 Place Dauphine, Paris, France, is singularly able to supply information on the French industry, he said. If he can be of service to the U.S. industry, he invites correspondence. Mr. Salmon is due in Paris, Aug. 10.

Sweezey Mill Plans Advance

VANCOUVER, B.C.—Plans are steadily advancing in connection with proposals to build a pulp mill at Edmonton, Alberta, according to R. O. Sweezey, Montreal financier. The mill is estimated to cost $12,000,000 and is expected to provide employment for about 350 persons.

N. Y. Gets Groveton Tissues

GROVETON, N.H. — Groveton Papers Co., Groveton, N.H., is using N. Y. newspapers to introduce Vanity Fair DeLuxe facial and bathroom tissues in the metropolitan market following market tests in Chicago and New England.

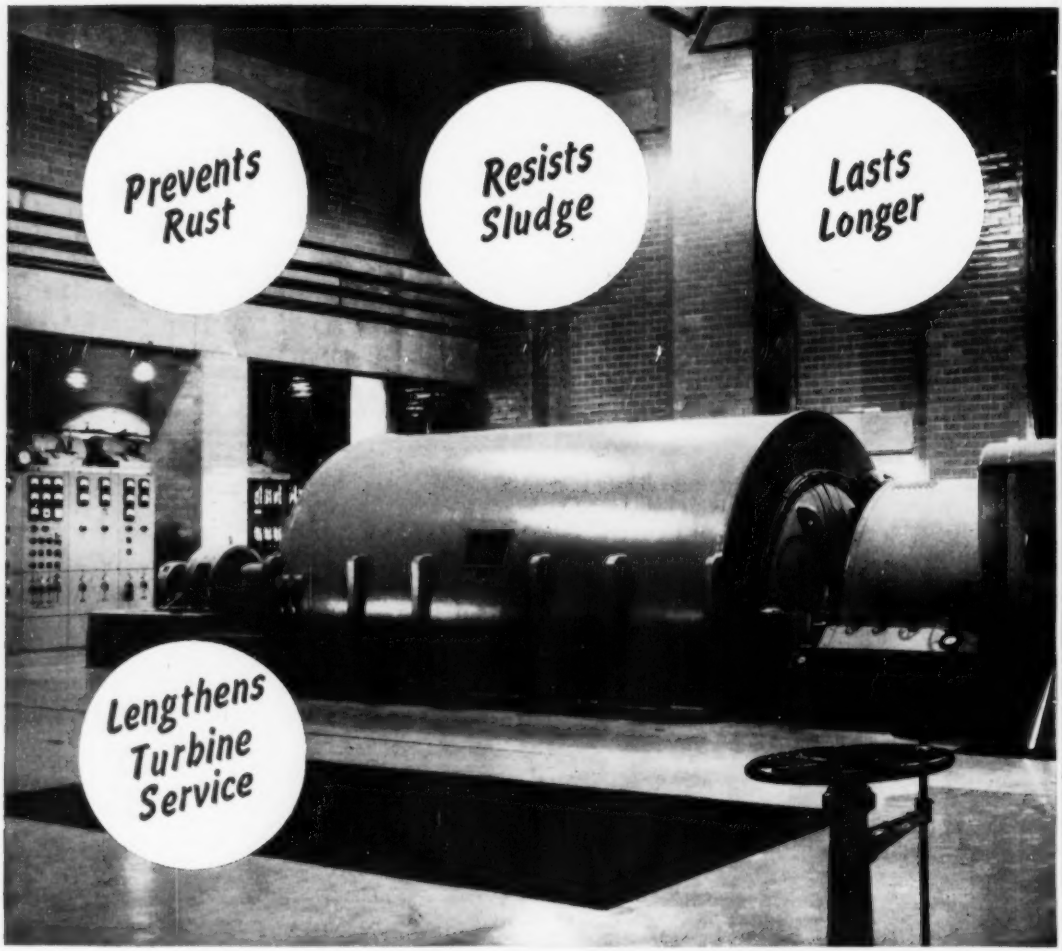
FORESTRY

APA Reports

The forepart of July, your Training Officer accompanied C. F. Ballard, Logging Engineer for Champion Paper & Fibre Co., at Huntsville, Texas, on a trip through Pennsylvania, viewing the operations of the Armstrong Forest Company. Armstrong's wire line gravity skidding operation proved of much interest, as did their experiments in the application of sodium arsenate to hardwoods to facilitate bark removal. It was especially gratifying to note the excellent job planning and layout which the Armstrong Forest Company and its contractor-producers are following.

The West Virginia Pulp & Paper Co. reports that 4,600 acres of cutover or submarginal land along the Atlantic coast are now spotted with pine seedlings as the result of further successful plantings carried out in recent months by its foresters. Planting teams employed by the company set out approximately 2,700,000 loblolly, slash and spruce pine seedlings during a three-month season ended in March. The planting is a continuation of a reforestation program which has restored 9,500 acres to full pine production during the past 4 years. Over this period, the company has set out about 6,200,000 seedlings. Aside from the handicap

Sinturlite Oils Retard Uninterrupted



SINCLAIR

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Oxidation To Give Steam Turbine Service

One of the problems in steam turbine operation is the build-up of acidity in the lubricant due to oxidation. This causes harmful sludge to clog passages and impair the proper functioning of the governor.

This problem is solved when Sinclair SINTURLITE OILS are used. SINTURLITE OILS are fortified to resist oxidation and resultant acidity, retarding the formation of sludge. Other additives protect against rusting. The system is always clean, including the oil lines, bearing clearances and intricate governor mechanism. Try Sinclair SINTURLITE OILS.

Continual research explains the high quality of SINTURLITE and other Sinclair Oils. Sinclair has recently completed at Harvey, Ill., one of the most modern and complete laboratories for petroleum research and development.

E. W. Isom, Sinclair Vice-President in Charge of Research says: "With the new facilities now made available to us at Harvey, Ill., we expect to find many ways to help industry cut costs through better petroleum products."

INDUSTRIAL OILS

FOR LUBRICATION COUNSEL, OR YOU MAY WRITE TO SINCLAIR REFINING COMPANY, 630 FIFTH AVE., NEW YORK 20, N.Y.

of rain, the planters enjoyed unusually favorable conditions. Summer-like warmth existed through most of the planting season, and unusual growth has been reported since the seedlings were set out. In South Carolina, 4,513 acres in 11 counties were planted with 2,623,000 seedlings; in North Carolina, 132 acres in 4 counties were planted with 90,000 seedlings.

Champion Plants Seedlings

CANTON, N. C.—The latest phase of Champion's long-range forestry program was the planting of 6 million pine seedlings on the company's 189,000 acres of land in the Carolina's and Georgia during last Fall and Winter. The "Waynesville Mountaineer," Waynesville, N. C., reports: "The end result of this long-range program will be mutually beneficial to both the company and the farmers of Haywood County—in providing continual harvests of both saw timber and pulpwood, and in the prevention of soil erosion."

Last year Champion Paper and Fibre Co. paid more than $8,000,000 in purchase prices and freight charges for 525,761 cords of wood. Of this total, 95 percent came from small farm plots. Some 224,000 cords came from N. C., the rest from S. C., Tenn., Ga., and Ala.

Cooper Urges Tree Farm System

OCEAN FALLS, B. C. — Paul E. Cooper, president of Pacific Mills, Ltd., pulp and paper manufacturers, has called for a revision of the province's forest laws to make them conform with those of the adjacent northwest states.

Addressing an international gathering of mill superintendents recently, Mr. Cooper urged British Columbia to adopt a Tree Farm system.

CONVERTERS

H & D To Exhibit

SANDUSKY, O.—An exhibit of interest to all breeders attending the IBCA "Treasure Chest" convention in St. Louis was display of Hinde & Dauch Paper Co., manufacturer of the Life Preserver, De Luxe, and 4-Poster Chick boxes, corrugated egg cases, and corrugated shipping boxes for turkeys and poultry.

The Hinde & Dauch display was built around H & D's own "treasure chests" developed by the H & D package laboratory, is credited with the creation of the first chick boxes used by the industry.

H & D "treasure chests" include chick boxes in winter and summer styles and in a variety of sizes, all featuring handsome, distinctive printing, color, and design, which surveys prove to be a pertinent factor in both initial and repeat sales. Fifteen and 30 dozen egg cases also attractively printed in color are among the other types of H & D boxes exhibited which according to H & D officials, "are stronger, better, and more economical than ever before," because of new, improved methods, materials, and equipment.

One of the most unusual "treasure chests" in the display was the H & D new Lock-Pak Turkey Box for the shipment of ready-to-cook birds which locks both top and bottom, to prevent pilferage and excessive handling.

H & D representatives in attendance throughout the convention, from July 19 to 22, were C. M. Schott, manager, hatchery supplies, R. C. Kerste, sales representative, and Paul Meelfeld, advertising and sales promotion manager.

RICHARD M. MONAHAN

—has joined the Newark Paper Box Co., Newark, N. J., as director of acetate sales. . . Previously he was vice-president in charge of sales and advertising of the George V. Clark Co., Inc., Astoria, L. I., N. Y.

Taggart Restores Night Shift

SYRACUSE, N. Y.—A night shift has been restored at the Taggart Bag plant Monday to step up production of multiwall bags. The shift will operate two manufacturing units, it was said.

It also was reported that the regular working time at the plant will be advanced from eight to nine hours per day, but confirmation of this rumor was not obtained.

Reiter's Celebrate 50th Anniversary

PHILADELPHIA—Mr. and Mrs. Henry J. Reiter of 465 Wigard avenue celebrated their golden wedding anniversary on July 23. Mr. Reiter is superintendent of Brown & Bailey Co., paper box manufacturers, 417 N. 8th street, Philadelphia.

Tube Expansion for Cons. P. P.

PASSAIC, N. J.—The Consolidated Paper Products Company has leased the P. H. Company plant on Eighth Street in Passaic, N. J., for the manufacture of paper tubes.

Industry to Get "No Flame"

RICHMOND, Va.—The Hamilton Manufacturing Co., Inc., a Richmond paper converter, has recently created and installed a machine unlike any other in this country, according to its president, O. F. Hamilton, Sr. Not only is it one of the largest machines in the industry for the waxing, saturating, coating, and laminating of papers and boards but also produces permanently flameproof papers and boards, Mr. Hamilton states.

For approximately three years this concern has been doing experimental research in developing a permanently flame-proof and fire-resistant paper for the U. S. Navy. In May 1949, the company's results were approved and written into the Navy's specifications. To date the use of the 100-inch-wide machine has been confined to purposes of the Navy, but increased production should permit wider expansion in industrial packaging where flame-proofing or fire-retarding qualities are desirable.

The machine, built primarily to make the company's "No-Flame" paper and board, is now being applied to many industrial uses. It is now being tested for use in making shipping containers where resistance to fire might be an important factor. It is also being developed as a sheathing and partition material for use in construction work.

The company's plant, located near the Byrd Airport, also produces printed and waxed papers and packaging materials for the baking, tobacco, textile and metals industries.

Sealright Lauded for Bond Sales

FULTON, N. Y.—For adding approximately 200 bond savers to saving bond payroll deduction plan during the 1949 opportunity campaign staged May 15 to June 30, the factory and office personnel of Sealright Corp. has received a commendation from the New York state U. S. savings bond committee.

The commendation was received by Frank C. Ash, president of the Oswego Falls Corp., and a member of the industrial division of the state U. S. savings bond committee.

Mr. Ash said the communication from the state committee reported New York state surpassed its quota in the recent campaign by approximately $22,224,000, by purchasing or pledging for $150,033,955 in bonds.

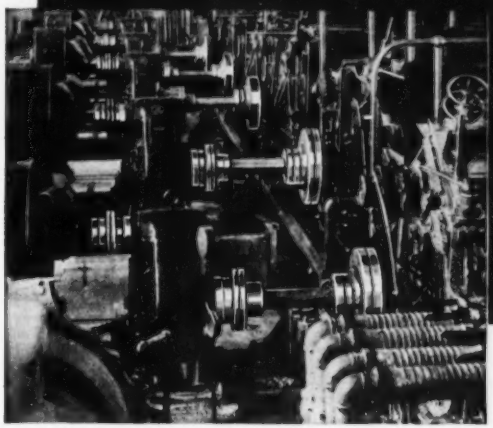
Newark Acquires See-Thru

NEWARK, N. J. — Augustus T. Rand, president of the Newark Paper Box Co., reports purchase of the production facilities of the See-Thru division of the George V. Clark Co., Inc., Astoria, L. I., N. Y.

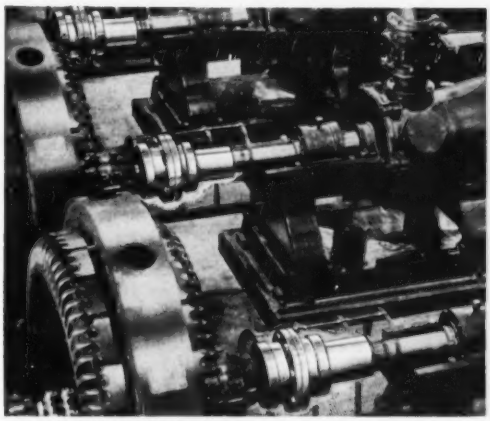
Jim Henry Gets Kahr Agency

CHICAGO—Jim Henry & Son, Mfrs. Agt., 201 North Wells Street, Chicago 6, now has the distribution of Kehr Paper Products in the Mid-west territory, the company announced.

HOW YOU can STOP PAPER MILL SHUTDOWNS and get Peak Production from All your machines

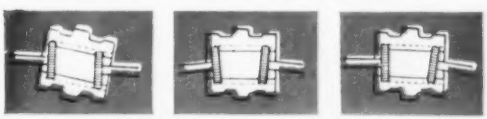


FOR REMOTE DRIVES: Fast's Floating Shaft Couplings enable drives to be *set back* from paper machines without the use of supporting bearings. This eliminates one piece of equipment, does away with impossible task of keeping three or more bearings in line—saves installation cost, stops upkeep, attention, and bearing replacement. These Couplings have been in service since 1926!



FOR JORDAN ADJUSTMENTS: Fast's Jordan-Type Couplings reduce wear on bearings, prolong life of motor and Jordan. Because Fast's splines are *always* meshed in oil, plug adjustment is smooth and certain. No worn spots can develop—customary "hard spot" is eliminated. Due to smooth torque and absence of vibration, Jordan life is increased and product discharged from Jordan is uniform.

COMPENSATE FOR ALL MISALIGNMENT: The floating sleeve takes a neutral position. All forms of misalignment are compensated for between the lubricated faces of the splines, equally divided between driving and driven members. The entire assembly revolves as one unit.
The exaggerated diagrams below demonstrate the Fast's principle.



YES, needless coupling shutdowns are a thing of the past with Fast's Couplings on the job. Fast's are the *original* gear-type coupling... the coupling that really guards the load-carrying oil from moisture, dirt and grit, with this positive metal-to-metal seal formed by *exclusive* "rocking bearing," which virtually eliminates wear.

Fast's are the only gear-type couplings backed with many years of top engineering experience, Koppers' high standard of workmanship and unexcelled coupling service. You save money when you install Fast's because they *prolong* machine and motor life, *preserve* bearings by limiting wear, lower your upkeep costs and reduce shutdown losses! Get the facts about the complete line of Fast's Couplings! Write today or use the handy coupon. Address: Koppers Co., Inc., Fast's Coupling Dept., 238 Scott Street, Baltimore 3, Maryland.

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SUPPLIERS . . . . .

Farrel-Birmingham Co., Inc., Ansonia, Conn., has recently created the Farrel-Birmingham Retired Employe Club. Area for two spacious club rooms was provided in a former pattern shop building. The club-room appointments include deep-cushioned, leather-upholstered lounges and chairs, well supplied book shelves and table-game paraphernalia. At a dedicatory luncheon, well attended by those eligible for membership in the new organization, Franklin Farrel, Jr., director of the company and former board chairman, presented membership cards and expressed his satisfaction in "fulfilling a plan we have long had in mind."

Budd K. Strader has been named eastern district manager of the Westinghouse Elevator Division of the Westinghouse Electric Corp., succeeding Neil C. Reed who has left the company. Mr. Strader will supervise the sales, construction, and service of elevators and electric stairways throughout New York State and northern New Jersey, operating out of New York City. He has been affiliated with Westinghouse since 1911.

Frank D. Palmer, Inc., Chicago, is now a division of the Package Machinery Co., Springfield, Mass. In a special notice issued recently by the parent company it is stated that "There will be no further shutdown of our plant this summer. Our workers received their two-week vacation pay at the termination of their recent strike and considered the time absent from work as their annual vacation."

James R. King has joined the chemicals department of the Quaker Oats Co., Chicago. He was formerly associated with the Argonne National Laboratory in that city. Mr. King will be concerned with market development of Fur-Ag furfural and its derivatives, which the firm produces at its Memphis, Tenn., and Cedar Rapids, Iowa, plants.

William H. Compton, who has served as manager of the Rockford, Ill., sales office of the Reliance Electric & Engineering Co. for the past four years, has been made supervisor of Standard Motor Sales with headquarters in the company's general offices in Cleveland.

Hercules Powder Co. has named Vernon Armstrong office manager of its Williamsett, Mass., branch, succeeding Jon T. Baker, who has been transferred to the Wilmington, Del., offices.

Allan R. Rylander has been elected president of Canadian Permag Products, Ltd. The firm is an affiliate of the Magnuson Products Corp., Brooklyn, N. Y.

Cameron Machine Co., 61 Poplar st., Brooklyn, N. Y., has named Paul B. Withstandley its advertising manager to succeed Harold Overacker who will handle export sales for the company. Prior to joining Cameron, Mr. Withstandley handled public relations and promotional work for Bristol-Myers Co.

E. F. Houghton & Co., manufacturers of industrial oils, chemicals and leathers, have announced that Anthony J. Wirpsa has joined the firm as supervisory chemist in the paper products division.

Dr. R. H. Patch, vice-president in charge of operations for the company, said Wirpsa will head a program to develop the use of chemicals in pulp and paper mills, as part of Houghton's planned expansion in that field.

Mr. Wirpsa, a graduate of Syracuse University's Forestry School, has an extensive background in paper mill work. Before joining Houghton, he served 12 years with the Racquette River Paper Co., Potsdam, N. Y., as research chemist. Before that he was for two years with the U. S. Forestry Service in Wisconsin.

Allis-Chalmers Mfg. Co. announced that unfilled orders on June 30, 1949, amounted to $123,751,394, compared with $136,486,784 as of March 31, 1949. Sales of the Tractor Div. are not booked until shipment is made. Billings for 1949's second quarter amounted to $99,493,571, bookings to $86,758,-181, billings for the six months period were $190,272,742, bookings $165,745,-671.

Lukenweld Div. of Lukens Steel Co. reports that during the past year approximately 400 Lukenweld Drier Rolls have been installed or are on order throughout the U. S., Canada, and foreign countries. Among the installations are applications in the pulp and paper, printing, boxboard, chemical, flooring and roofing, plastics and other industries.

Burrell Technical Supply Co., 1942 Fifth avenue, Pittsburgh 19, Pa., announced that the state of Pennsylvania has officially amended their charter permitting them to conduct business, as of Aug. 1, 1949, under the name of *Burrell Corporation*.

Armco Steel Corp., Middletown, Ohio, will start immediate construction of a $12,000,000 steel making plant which can produce 400,000 tons of steel ingots per year, Charles R. Hook, chairman of the Board of Directors, has announced. It will be built just

LYNCH OFFICERS PROMOTED

Election of T. C. Werbe (right) to the newly-created office of Chairman of the Board is reported by Lynch Corp. directors. Mr. Werbe has been president of the corporation since its incorporation in 1928. M. H. Pendergast (center), who has held the office of executive vice-president and general manager for several years, succeeds Mr. Werbe as president. J. P. McCarthy (left), elected vice-president in charge of manufacturing, has been director of manufacturing for the Ohio Div. for the past 11 years.

DR. CHESTER L. ARNOLD

—named director of research for Stauffer Chemical Co. For the present he will continue supervision of Western Div. with headquarters in Richmond, Calif . . . John F. Crowther, asst. director of research, becomes director of Eastern Research Div. with offices at Process Development Laboratory, Chauncey, N. Y.

J. L. BUCHNER RETIRES

Corn Products Refining Co. announces the retirement of its vice-president, J. L. Buckner, Aug. 1, after 37 years service . . .

Liquid Chlorine Versus Bleaching Powder

ALTHOUGH bleaching powder was in regular use by pulp and paper makers for many years, it carried with it time consuming and costly difficulties. Bleaching powder was never stable in storage and when made into bleach liquor, it was difficult to get clear solutions and to eliminate sludge.

When liquid chlorine became readily and cheaply available, the old bleach powder methods could be discarded. Under the stimulus of production for World War I, electrolytic cell design improved, chlorine production increased and economical methods of liquifying and transporting were developed. Hooker engineers and chemists played an important part in this progress. They also helped specifically in the pulp and paper industry not only in improving bleaching techniques but in the designing of bleaching equipment.

Hooker technicians are constantly engaged in making available for you the high purity liquid chlorine and other Hooker chemicals you use. The results of their studies, too, are available in Hooker Technical Bulletins and cover a wide range of subjects of interest to pulp and paper makers. A list of the titles of these bulletins and copies of those you would like to have will be sent to you when requested on your letterhead.

HOOKER ELECTROCHEMICAL COMPANY
6 UNION STREET, NIAGARA FALLS, N. Y.
New York, N.Y. Wilmington, Calif. Tacoma, Wash.

HOOKER CHEMICALS

From the salt of the earth

2800 **Caustic Soda Muriatic Acid Sodium Sulfide Paradichlorobenzene Chlorine Sodium Sulfhydrate**

Methocel:

the Efficient Suspending Agent

If you are looking for a better suspending agent, try the *new* Methocel. Here is a product that gives you reliable, efficient suspension in paper coating dispersions of many kinds.

In the production of clay coated stock, Methocel is highly useful in suspending the pigment in the color and contributes valuable flow and leveling properties to the coating, producing a uniform coated sheet.

Another outstanding quality of Methocel is its thickening ability, highly useful in latex and emulsion coating. Compatible with practically all commercially used latices, Methocel gives uniform, yet inexpensive, viscosity control.

The excellent film properties of water-soluble Methocel, including toughness, flexibility, clarity, oil and wax resistance, and high binding power have proved particularly useful in a broad range of paper sizing applications.

Methocel may be just what you have been looking for to improve your product. Send in the coupon for your *free* experimental sample of the *new* Methocel, *powdered*. Try it and see the many superior advantages of Methocel.

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

THE new *methocel*

DID YOU GET YOUR SAMPLE?

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Dept. Me-749-1
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Please send free sample of METHOCEL for use in.....

Check viscosity desired: 15, 25, 100, 400, 1500, 4000 cps.

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DOW

CHEMICALS INDISPENSABLE
TO INDUSTRY AND AGRICULTURE

Increasing Chemical Recovery by Efficient Multiple Effect and Disc Evaporator Operation

By
E. A. MURPHY
Minneapolis-Honeywell Regulator Co., Brown Instruments Division, Philadelphia, Pa.

Increased mill operating efficiency and decreased operating costs are both factors of vital interest to the papermaker.* The steady trend away from batch processing and toward continuous processing methods is indicative of a continued increase in operating efficiency, and has been made possible largely through the combined efforts of mill operators and the designers and manufacturers of mill processing equipment.

The multiple effect and disc evaporators in the recovery plant of a sulfate pulp mill serve as excellent examples of the advances made in mill operating efficiency through the application of properly designed processing equipment, for the over-all operating efficiency of a sulfate mill depends largely upon that of its recovery plant. Thus, an increase in chemical recovery is directly reflected by a corresponding increase in over-all mill operating efficiency.

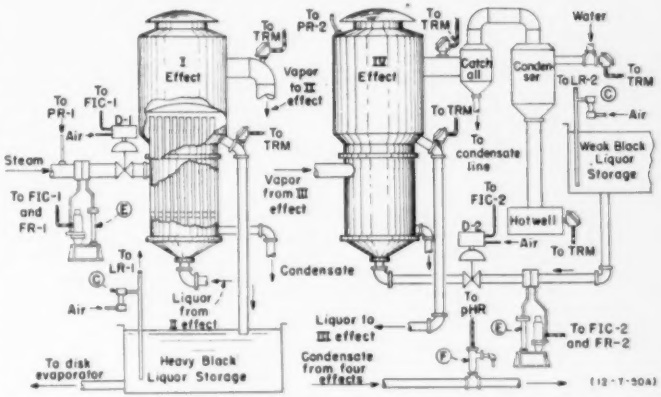


Figure 1—"Typical instrumentation of quadruple-effect long-tube vertical evaporator showing locations of primary measuring elements. See Fig. 2 for master control cubicle."

Continuous Processing Methods Call For Closer Control of Variables

The development of continuous processing methods, wherein the processed material moves continuously through several closely integrated stages, posed a control problem far more critical than that encountered with batch processing. This is true because any fluctuation of pertinent variables beyond optimum operating limits in any one stage of a continuous process will upset all preceding and following stages. In extreme cases, the upsetting of a single stage can result in the shutting down of an entire continuous process.

With a batch process, on the other hand, erratic behavior of process variables, while undesirable, affects only the amount of material present in the processing equipment, and has little or no influence on associated processes.

Manufacturers of most modern continuous processing equipment specify the operating limits for variables such as temperature, pressure, and flow. Since these limits are frequently so narrow that it would be difficult, if not impossible, to remain within them under manual operation, the intelligent application of industrial instruments and controls plays an important part in successful continuous processing.

Many Variables to Consider in Multiple Effect Evaporator Operation

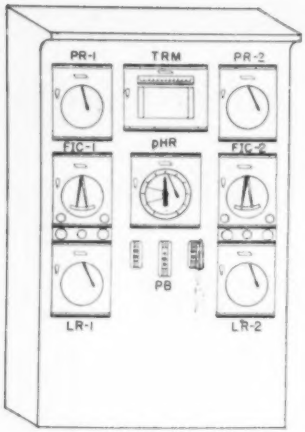
Improvements in the design of multiple effect evaporators have resulted in greatly increased capacity, but have also increased the number of variables having a bearing on the process. In the quadruple-effect evaporator shown in part in *Figure 1*, for example, each of the following exercises an effect on the smooth, continuous operation of the recovery process: (1) flows of both steam and feed liquor; (2) steam pressure; (3) temperatures of liquor and vapor in each effect; (4) absolute pressure in last effect; (5) temperatures of water going to barometric condenser and water in hot well; and (6) levels in weak and heavy black liquor storage tanks.

While not essentially influencing the recovery process, the degree of purity of the condensate returned to the hotwell is important. Should this condensate become contaminated by black liquor because of tube leaks within the evaporator, serious damage to pumps, boilers, and power plant auxiliaries can result.

Individually Engineered Centralized Instrumentation Eases Operator's Tasks

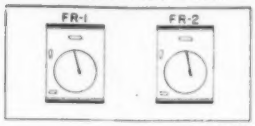
Since multiple effect evaporators differ both in design and in the number of effects employed, it is not practical to attempt to provide a single control system which can be applied to an evaporator. It is far more desirable to engineer a system for each installation, in this way obtaining instrumentation which takes advantage of evaporator design features and incorporates the theories of mill operating personnel and technicians. Once such a system has been worked out, it can be supplied with all necessary instruments and control devices mounted on a steel cubicle, and with all back-of-panel wiring and piping completed. This, of course, greatly simplifies installation.

Figures 1 and *2* illustrate a typical method of instrumenting a quadruple-effect long-tube vertical evaporator. In the system shown, steam and feed liquor flows are indicated and automatically maintained at the correct values by instruments FIC-1 and FIC-2 on the master cubicle seen in *Figure 2*. Since the meters which measure these flows (shown in *Figure 1*) are of the electrical type, additional recording and integrating instruments can be connected in parallel electrically with the indicators, and mounted at a remote location. In the example cited, the integrating recorders are placed in the turbine room. More frequently, however, the feed liquor flow recorder is mounted adjacent to the dilute or weak black liquor storage



Cubicle in Evaporator Room

Instruments in Turbine Room



(12-T-508)

Legend

FIC - Indicating Flow Controller
pHR - *Electronik* pH Recorder
TRM - Multiple Record *Electronik* Resistance Thermometer
FRI - Integrating Flow Recorder
LR - Liquid Level Recorder - Bubbling Type
PB - Push Buttons and Signal Lights
PR-1 - Steam Pressure Recorder
PR-2 - Absolute Pressure Recorder
C - C-Clamp Rotameter
D - Diaphragm Motor Valve with Positioner
E - Electric Flow Meter Body
F - pH Flow Type Electrode

Figure 2—"Master control cubicle for multiple effect evaporator showing grouping of instruments and control devices."

tanks. Recorder PR-1 in *Figure 2* continuously indicates and records steam pressure, while PR-2 shows the absolute pressure in the final effect. Use of an absolute pressure recorder rather than a conventional pressure or vacuum recorder eliminates the necessity for making corrections to compensate for changes in barometric pressure.

TRM in *Figure 2* is a multiple record *ElectroniK* temperature measuring instrument. Utilizing either thermocouples or resistance thermometer bulbs as primary measuring elements, this instrument records on a single chart temperatures of: (1) liquor in each effect; (2) vapor in each effect; (3) water entering barometric condenser; and (4) water in hotwell. Since this multiple recorder is available to handle up to sixteen temperatures on a single chart, other pertinent temperatures can be included when desired.

Some mills prefer to record only a few temperatures throughout the evaporator, and to obtain an indication of others. A precision indicator, shown in *Figure 3*, is ideal for this purpose. This instrument has a rotating temperature scale and can be supplied with built-in push-button switches capable of handling up to forty-eight different thermocouples or resistance thermometer bulbs. These switches, which are of the self-holding type, automatically release upon selection of another point.

Condensate leaving the evaporator is continuously sampled by a pH electrode assembly (F in *Figure 1*). Instrument pHR on *Figure 2* records the pH (effective alkalinity or acidity) of the condensate, and provides rapid indication of any contamination caused by tube leaks or liquor entrainment. This instrument is usually equipped with an auxiliary switch which diverts the flow of condensate away from the hotwell and actuates an audible or visual alarm if any contamination occurs. The same results can be obtained by using a conductivity measuring instrument in the place of the PH recorder.

Instruments LR-1 and LR-2 provide continuous records of the levels in both the dilute and heavy black liquor storage tanks. As indicated in *Figure 1*, the primary measuring elements of these instruments are small pipes or tubes which are inserted into the storage tanks, extending down to the minimum expected levels. A small flow of compressed air is bubbled continuously from each pipe, and since the pressure required to force the air from the pipe is proportional to the height of the liquor above the end of the pipe, the recording instruments measure this pressure but record directly in liquid level units. When it is not desirable

Figure 3—"Precision indicator used with thermocouples or resistance thermometer bulbs. Can be supplied to indicate up to 48 different temperatures."

to insert the dip tubes or bubble pipes down through the top of the tanks, the air supply can be tapped directly into the sides of the tanks at the points of minimum level. The C-clamp rotameters (C in *Figure 1*) facilitate the initial adjustment of purge air to the bubble pipes, and supply ready indication that the system is operating.

Utilization of a single master control cubicle, such as shown in *Figure 2*, provides the operator with fingertip process control. Grouped conveniently before him are indication and record of all important process variables, and the means for making any required changes in the settings of the various controllers. Also included on the cubicle are signal lights to indicate unusual process conditions such as contamination of condensate, or dangerously low levels in important storage tanks. Push-buttons to operate valves or pump motors can be added when desired.

Possible Control Variations

As previously mentioned, the instrumentation just described will not necessarily fulfill the requirements of every evaporator installation. In some cases, for example, continuous measurement of the Baumé of the liquor leaving the evaporator is desirable. An instrument which will supply this information is also available. Operation of this instrument is shown schematically in *Figure 4*. Air is bubbled constantly through two dip tubes which are immersed in the liquor in the sampling chamber. This air is supplied at a constant rate as indicated by the rotameters and established by the setting of needle valves in the aid supply lines. With this rate set to be equal in each dip tube, any difference in air pressure between the two dip tubes is a function of the depth of immersion of the two tubes and the specific gravity or Baumé of the liquor. Since the difference in the depth of immersion of the two tubes is constant, any pressure variation is due to changes in the Baumé of the liquor. Thus, measurement of this pressure differential constitutes a reliable evaluation of the Baume' of the liquor in the sampling chamber.

Measurement of this pressure differential is accomplished by means of a differential bell type meter. In order to provide a differential pressure range eyuivalent to 2,536 inches of water (the range of the bell type meter) between the maximum and minimum Baumés or specific gravities to be measured, a means of suppression is employed. Suppression is accomplished by bubbling the air to one dip tube first through a reefrence liquid whose Baume' is equal to the lowest value which is desired to be measured.

Calibration of the instrument is based on the following mathematical relationships:

$$X = (\text{Meter Differential}) \div (\text{Max. Bé} - \text{Min. Bé to be measured})$$

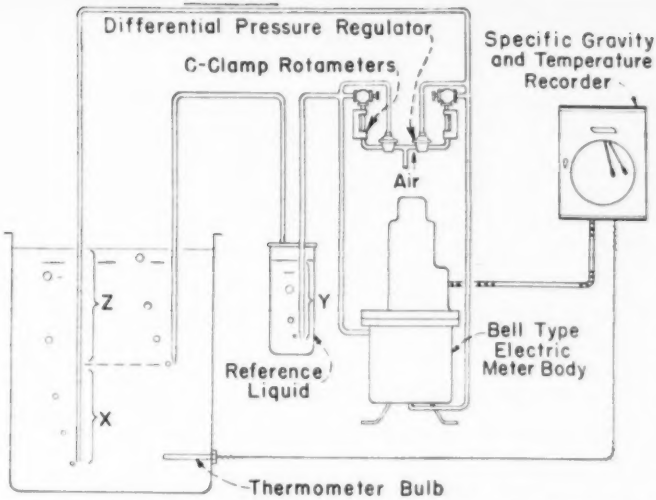


Figure 4—"Schematic drawing illustrating principle of operation of continuous Baume' recorder."

$Y = X$ (Min. Bé) ÷ (Bé of Reference Liquid)

Since *two* dip tubes are immersed in the liquor in the sampling chamber, and the distance X is therefore a constant, variations in liquid level Z have an equal effect on each dip tube (so long as both tubes are immersed), and do not affect the accuracy of the instrument.

The recording instrument usually includes a temperature pen, whose temperature-sensitive element is inserted in the sampling chamber. The temperature record provided facilitates the calculation of the specific gravity at a temperature other than the recorded, and permits correction of the recorded Bé for any given temperature.

A sample of liquor leaving the evaporator flows continuously through the sampling chamber, and Baumé readings are transmitted electrically to the recording instrument which can be supplied either as a pneumatic or electric controller. When employed as a pneumatic controller, this instrument is sometimes used to automatically position the set point index of the instrument controlling steam flow to the evaporator, in this way maintaining the correct Baumé of the liquor leaving the evaporator.

Other mills prefer to base control on boiling point rise. In this case, the boiling point rise instrument continuously repositions the set point index of another controller, normally a flow controller on the steam supply to the evaporator.

Advantages of Adequate Evaporator Instrumentation

Properly engineered evaporator instrumentation offers many and varied benefits. The ability to operate the evaporator at peak efficiency insures a constant flow of heavy black liquor to the next step of the recovery process. Operating data provided by the easily filed chart records assists greatly in predicting tube life and arranging for boil-outs. Thus, there is no longer any need for periodic shutdowns to determine through inspection what maintenance is required. This same data also helps to hold steam consumption to a minimum since it aids the operator in maintaining the proper heat balance throughout the evaporator with minimum steam input.

With centralized instrumentation, the services of the evaporator are most efficiently utilized, a single operator being able to attend to two or three sets of evaporators.

Effect of Disc Evaporator Variables On Recovery

Treatment received by the black liquor in the disc or cascade evaporator largely determines the amount of chemical that will be reclaimed in the recovery furnace. Variations in liquor level within the evaporator, for example, can result not only in a decrease in evaporating efficiency, but also in fluctuations in the quailty and quantity of the recovered chemicals. Too high a liquor level causes losses due to foaming and splashing, while too low a level results in the liquor burning on the disc plates.

Failure to control the temperature of the liquor leaving the primary and secondary heaters can cause "freezing" of the liquor in the lines, and faulty combustion or excessive loss of chemicals in the recovery furnace. The temperature of liquor leaving the primary heater must be maintained at a value that will insure fluidity. As the liquor leaves the secondary heater on its way to the recovery furnace burners, its temperature becomes even more critical. If this temperature goes too high, the liquor will break up into extremely fine particles when it leaves the burner nozzle, and a large portion of the recoverable chemicals will be drawn out with the stack gases. Too low a temperature, on the other hand, will cause faulty combustion in the recovery furnace.

Automatic Controllers Hold Critical Variables

Figure 5 illustrates a control system specially engineered for the disc evaporator. Correct level of the liquor within the evaporator is maintained by means of a rather unique application of a thermometer controller. As shown, the temperature-sensitive bulb is mounted on the flow box at the desired liquor level. Obviously, when the liquor falls below this level, the bulb is uncovered, and its temperature drops. This decrease in temperature is meas-

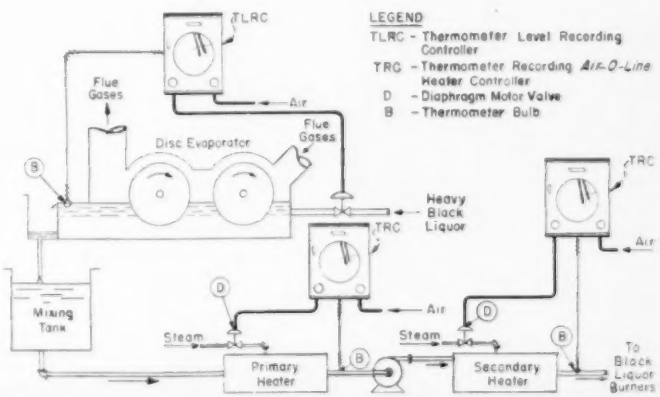


Figure 5—"Complete instrumentation of disc or cascade evaporator illustrating locations of thermometer bulbs and control-valves."

ured by the recording instrument whose recording pen moves below the set point. As soon as this penmovement occurs, a pneumatic control unit within the instrument varies the air pressure applied to a diaphragm motor valve which controls liquor feed to the evaporator, opening this valve an amount proportional to the temperature deviation which is in turn proportional to the decrease in liquor level within the evaporator. When the liquor approaches the correct level and begins to contact the bulb, the measured temperature gradually increases, and the control instrument begins to throttle the liquor feed valve toward its closed position. In this way, a gradual closing of the valve takes place, and the liquor is brought to exactly the correct level.

A second thermometer controller maintains the liquor leaving the primary heater at the correct temperature to insure proper fluidity. The bulb of this instrument is inserted in the liquor line on the downstream side of the heater, and the pneumatic control unit within the instrument operates a diaphragm motor valve controlling steam flow to the heater. Since the steam is injected directly into the liquor in the primary heater, close control is essential, as too little steam would give rise to the possibility of liquor "freezing" in the lines, while too much steam, although guaranteeing fluidity, does so at the expense of excessive dilution of the liquor.

The control instrument on the secondary heater is identical with the one just described for the primary heater. Its bulb is also inserted in the liquor line downstream from the heater, and its control unit operates a valve regulating steam flow to the heater. As previously described, precise control of the temperature of liquor leaving the secondary heater is of great importance since it makes possible the maintenance of a fine balance between maximum combustion efficiency and minimum chemical loss in the recovery furnace.

Group Mounting of Disc Evaporator Instruments

Although the instruments controlling the disc evaporator variables are shown mounted adjacent to the various points of measurement in *Figure 5*, it is usually advantageous to mount them on a single master control cubicle similar to that shown in *Figure 2*. Here again the advantages of individually engineered instrumentation manifest themselves. The instruments referred to can, for example, be mounted on a disc evaporator control cubicle, which can be supplied already wired and piped, or they can be included on the master control cubicle containing the control instruments for the recovery furnace. In either case, the chart records and the readily adjustable control units provide the operator with the tools necessary to insure continuously efficient operation of the disc evaporator.

Entire Recovery Process Aided by Instrumentation

The application of properly engineered instrumentation to all other phases of the recovery process is of equal importance to that described for the multiple effect and disc evaporators. Just as a chain is no stronger than its weakest link, so is the over-all recovery plant efficiency no better than the efficiency of each of its many closely integrated processes. The combined use of modern corerctly designed processing equipment, and intelligently applied industrial instrumentation and controls goes a long way toward achieving the dual goal of every sulfate mill operator—increased checmical recovery, with decreased operating costs.

Chips from Veneer Waste

By

JAMES C. HAYES

Woodlands Manager, Everett Pulp & Paper Company, Everett, Wash.

About ten years ago, the manager of one of the veneer plants in Tacoma, Washington called on the author at the office of the Everett Pulp & Paper Company in Everett. He had with him a sack full of fir chips. These chips had been secured by taking the reject veneer sheets from the green chain in his veneer plant and running them through a clipper. The clipper cut the sheets into strips approximately an inch long measured lengthwise of the grain. Then these strips were broken up into squares by hand.

There was quite a bit of the reject material going over the end of the green chain. This material was passed through a veneer hog and the hogged material was burned in a refuse burner or in a Dutch oven furnace as fuel. It had very little value as fuel, due to the flashy character of its fire.

The manager of the veneer plant was trying to determine if the material could be used in chip form for the making of pulp and if so, was there a chipper on the market suitable for cutting it up, or, could one be devised?

The chips looked so good that the author made a trip to the veneer plant in Tacoma to look over the operation. The inspection revealed many construction difficulties that made it impractical to separate this material from other waste which was unusable for pulp production. However, the sight of a large amount of usable wood going over the end of the green chain at that plant created a desire to make a study of the conditions in the two veneer plants in Everett.

Neither of these firms had very definite ideas as to the quantity of suitable wood which was being burned as reject material, but the operators of both plants thought it was a negligible amount.

Upon request, permission was granted to do a little investigating. After spending an hour pulling out and stacking up reject material from the waste conveyor, which looked as if it could be used in making chips, the evidence indicated that a considerable quantity was being wasted. The next problem was to determine whether or not these sheets could be converted into chips.

These reject sheets were eight feet long lengthwise of the grain. They varied from one-tenth to one-seventh of an inch in thickness. They usually were from three or four inches up to eighteen inches or two feet in width, the width depending on how the clipperman trimmed out the defects.

It was very evident that these sheets, too light to be handled in a conventional chipper, would have to be sheared off rather than chipped. The problem was submitted to Inar Flateboe of the Sumner Iron Works, where after considerable study, a veneer chipper was evolved.

This original chipper was installed in one of the veneer plants immediately after being completed. Production of five to ten units of chips (200 cubic feet per unit) per day was expected of it. The output, however, jumped almost immediately to twenty units per day.

Today, there are twelve or fourteen veneer chippers in use in the Pacific Northwest, and each of them probably is producing more than twenty units a day.

The present veneer chipper is almost identical in design with that of the original unit. Its base, drive, and disc resemble very closely the comparable parts of a conventional chipper. The difference lies in the way the knives are set in the disc. In the conventional pulpwood chipper, the knives are bolted onto the side of the disc; and the straight edge of each knife is the trailing edge. In the veneer chipper, the knives are set so that each blade extends through a slot in the disc and so that the straight edge of each knife is the leading edge. A very close clearance is maintained between the edge

Presented before a recent Meeting of the Pacific Coast Division of The American Pulp and Paper Mill Superintendents Association, in Seattle, Washington.

of each knife and the bedplate or anvil upon which the sheets of veneer rest as they are fed into the machine. This assembly gives the same action as a pair of shears.

The throat of the veneer chipper is set at an angle of about 30°. The veneer sheet rejects are fed to it through a pair of power-driven feed rolls which are fluted to insure positive feed. Set as close to the disc as possible, these rolls prevent the sheets from being upended or dragged through the chipper without being cut. The length of chip is determined by the speed of the rolls, and the distance that the knife blades protrude through the slots in the disc. The speed of the rolls is synchronized with the speed of the disc.

The first veneer chippers were equipped with 54-inch discs and were of the four-knife type. More recent designs have 66-inch discs equipped with six knives.

The optimum speed of a veneer chipper is approximately 700 RPM. Such a chipper commonly is equipped with a 50 h.p. motor; but there are instances where a motor with a rating as low as a 35 HP is used. The larger motor definitely seems to be better.

The 60-inch chipper has a theoretical capacity of approximately eight units an hour. In several instances, this machine regularly is turning out forty units in eight hours. There are cases where even this production is being exceeded. It should not be the objective, however, to work such a chipper to capacity but rather to keep as little reject material as possible going into it. In other words, the waste from veneer plant operation should be kept at a minimum.

Chips produced from veneer rejects are quite satisfactory. They are clean and uniform. Their only possible contamination is bark, and since all veneer blocks are barked before being put in a lathe, this gives very little trouble.

The bulk of the rejected material comes from the sapwood, the youngest portion of the tree, which yields the best fibers.

These chips, when compared with other chips, show no appreciable difference in cooking requirements. Since they are uniformly thinner than the ordinary chips, it is possible that there is some side penetration of the cooking liquor. Therefore, in theory at least, they should cook a little faster than conventional chips. However, practice at the Everett mill takes no account of this possibility.

The use of these chippers has resulted in the saving of a considerable amount of good material which heretofore was wasted in veneer plants. It is conservative to estimate that the twelve or fourteen chippers now in constant use are each averaging something beter than twenty units per day.

Probably, fifty to sixty thousand units of chips are being produced yearly from this veneer waste. This production represents the equivalent of some twenty five million board feet of logs a year. Yet there is still a considerable quantity of rejected material that is not being reclaimed.

The veneer chipper is primarily adapted to the chipping of lightweight, thin material, such as veneer sheets or green boards of an inch or less in thickness. It is not adapted to heavier cuts. However, the chipper, with a proving period of abou' ten years behind it, is playing an increasingly important role in the salvaging of good pulpwood material which otherwise might be wasted.

The Place and Future of Machine Coating In the Paper Industry

By

B. R. NEWCOMB

President and General Manager, John Waldron Corporation, New Brunswick, N. J.

Your program committee has assigned to me as a subject the place and future of machine coating in the industry.

The industry understands machine coating to be the operation of applying a coating formulation to one or both surfaces of the already formed web of paper while it is still in process through the paper making machine.

At the December 1938 meeting of the Michigan Division of this Association held in Kalamazoo, Mr. G. K. Dickerman talked to you in considerable detail on the subject of coating paper on the paper machine; he described one type of process, and the subsequent extensive use of this process has amply justified the enthusiasm with which he presented the subject for your consideration at that date; and the growth of machine coating through the advent of other processes and installations has since produced a phenomenal record in the mass production of paper coated on the paper machine.

While paper is coated for many purposes, principally it is coated on the machine as an upgrading proposition to afford better printability, brightness and uniformity of surface texture. This was the objective in 1938, and earlier, and it is largely the same objective today; however, the use of coated papers made by machine coating has now become greatly extended, and eventually, I have no doubt but that this type of coating operation, will cover other fields than that of the printing industry as I shall mention later.

In 1938 the industry had available, for coating on the paper machine, four main processes.

Firstly, the process described by Mr. Dickerman wherein a stiff ink printer method of roll distribution coated two sides of the paper, first one side and then the other after which the paper passed through a short air dryer before going over the paper machine dryers.

Secondly, a process which consisted in applying an excess of coating to the surface of the sheet by means of a roll revolving in a trough of coating formulation, the excess coating then being removed by means of a wiping blade or revolving rod with the sheet leaving the wiping blade or rod at the proper angle and with sufficient tension to produce a smoothing effect after which the sheet is passed around a dryer with the dry side against the

B. R. NEWCOMB

Presented at the American Pulp & Paper Mill Superintendents Ass'n., annual meeting, Atlantic City, June 15-18, 1949.

hot surface and the coated side out so that it was dried sufficiently to prevent sticking before being contacted on the coated side by subsequent dryers.

The third process available at this time was the rotogravure offset printer in which an all over engravel roll is furnished with color of heavier solid content, the excess of which is doctored off and a substantial portion of the balance remaining in the engraved depressions is lifted out by a rubber roll and transferred to the sheet.

The fourth process was the well known squeeze roll application which, however, has the disadvantage of applying only very light weight coats of low solids content.

All of these methods are still in use today; however, all but the rotogravure offset method require more than one application to a side to secure adequate coverage in the heavier weights of coating as uneven caliper of the sheet is likely to leave thin spots in the coating by reason of the nature of the process.

More recently, however, new processes of coating are coming into the field, they permit the use of the high solids content so desirable to reduce to a minimum the drying problem in on the machine coating, they allow heavier weights of coating to be obtained in a single application, they produce uniform thickness of coating regardless of uneven caliper, they offer flexibility in coating weight applied, and the apparatus is simple to install and relatively inexpensive to purchase, maintain and operate, the operation being carried out without any additions to the paper machine crew.

Coating on the paper machine has a future readily apparent today. Readers are becoming more conscious of eye fatigue and advertisers who want to use color are going to demand coated newsprint, it can only be done on the mass basis for low cost and this dictates a paper machine application. Mail order catalogues are already beginning to appear on coated paper, the volume required is a machine coating operation.

Presently, off the machine converters are producing packaging materials which are rapidly going to replace glass and metal containers. Formulations have been developed to impart the properties of grease proof, moisture proof, vapor proof, rupture resistant, abrasion proof, vermin proof, heat resistant, light proof and proof against age deterioration, or a combination; demand for these qualities is so insistent with the development of modern packaging methods that these products will rapidly emerge from the tailor-made stage of the off the machine converter to the low cost mass production operations carried out on the paper machine on which one or a combination of the qualities mentioned will be made into the paper as it comes from the paper machine, and suprisingly enough the off the machine converter finds another new development springing up to fill the gap left by any product for which his ingenuity and promotions has so increased the demand that it has made mass production possible on the paper machine.

One of these newer types of coaters adaptable for machine coating operation is the air blade, a number of whch are currently readying for operation on board making machines as an upgrading proposition and where the use of cheaper raw materials demands better coating coverage than is obtainable with former types of machine coaters. In the air blade type the board or paper is roll coated with an excess of the coating color, this coating is then leveled out by a thin air blade while the sheet is supported against a backing roll and the high velocity jet of air planes off the excess leaving a uniform weight of coating across the sheet regardless of the variations in caliper.

Another form of coater still in the early stages of commercial use but which has considerable probability of emerging into a machine coating instrument is that in which one or a series of knives are supported upon a pneumatic diaphragm with the sheet of paper traveling between the diaphragm and the knife or knives. Te diaphragm is sustained under a few ounces of pressure which levels out the surface to be coated and provides a resistent support. The pressure on the diaphragm is varied to change the coating weight. Coatings with extremely high solids content can be handled satisfactorily on this coater and the knife principle is well known to all of you present here for its ability to apply a uniform coating, and for its simphicity of operation and set up, the addition of the pneumatic diaphragm gives it a new identity and a wider range of uses.

These two types of equipment are being made available to you in laboratory form today so that you may inspect them and observe their operations at close range on a laboratory scale.

In addition there is a third new method which, while still in the development stage, appears to offer a wide range of possibilities contributing to the future of machine coating, namely the Erickson exchange process on which you have heard a paper here today. In order to acquaint you with the possibilities of this as a machine coating process we have set up here a Microjet Laboratory Air Blade Coater in combination with a laboratory type drum dryer and winder for web coating. In the operation of this combination the clay carrying vehicle is applied to the web, the excess doctored off by the air blade, and immediately the surface is then treated with a precipitating agent, after which the coated surface has the excess water squeezed out and the sheet is laid coated side in contact with the metal drying surface.

With these new methods, and with new substances such as the resins, the latices, the silicones, a wide range of plastics, improved adhesives, pigments and chemicals and processes of using them—machine coating while still in its infancy offers a tremendous opportunity for immediate profit realization through new product development on existing machinery with a minimum of capital investment.

PATENT ABSTRACTS . . .

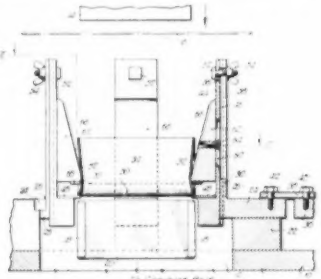
In addition to abstracts on the technology of pulp, paper and related industries, miscellaneous abstracts which may provide useful information to our readers are included herein.

2,460,734—Abestos Impregnated with Tin Oxide and Process of Producing. Thomas D. Callinan, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York. Filed October 1, 1944. Issued February 1, 1949.

The method of improving the tensile strength and dielectric properties of a flexible asbestos paper consisting of 80 to 70 parts asbestos and 20 to 30 parts of clay, which consists in impregnating said paper with an aqueous solution of alpha stannic oxide and heating the impregnated paper to about 60 to 100° C. to convert the alpha oxide to the beta form of the oxide.

2,460,892—Box Shaping Machine. Wade H. Lisle, Kansas City, Mo., assignor to Crook Paper Box Company, North Kansas City, Mo. Filed October 14, 1946. Issued February 8, 1949.

In a paper box machine having a crimping assembly provided with means movable toward and away from a box to be crimped into and

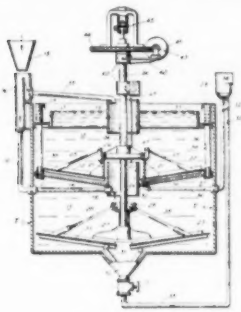


out of underlying relationship with a portion of said box, the improvement of which comprises a unitary triangularly-shaped guide block movable with said means into and out of engagement with the box, said block having releasable structure disposed remotely from the path of travel of said box as the latter is moved toward said means for holding the block at selected positions spaced above said means.

2,460,834—Settling Method and Apparatus. Leland H. Logue, Denver, Colo., assignor, by mesne assignments, to Mining Process and Patent Company, a corporation of Delaware. Original application January 26, 1937, Serial No. 122,371. Divided and this application August 13, 1945. Issued February 8, 1949.

Apparatus for settling solids from fluid sus-

pensions, comprising a tank divided by a partition into upper and lower compartments; means



providing an open passage through the partition and between the compartments; means for introducing a measured feed into each compartment; a weir in the upper compartment providing an overflow for clarified liquid; a launder at a side of the weir to receive the overflow; a conduit extending upwardly through the tank and into the launder, having its inlet at the top of the lower compartment and having its outlet at an elevation above the overflow weir, thereby creating a pressure in the open passage in opposition to the hydrostatic pressure acting thereon; and means for separately discharging thickened matter collecting in each of said compartments.

2,460,925—White Writing Ink. William E. Decker, Melrose Highlands, Mass., assignor, by mesne assignments, to Technical Specialties Company, a corporation of Massachusetts. Filed September 6, 1946. Issued February 8, 1949.

Serial No. 695,287. 6 claims (Cl. 106-26).

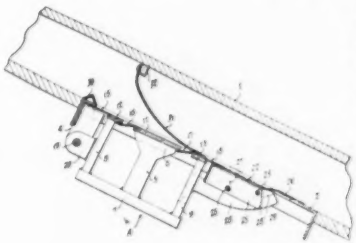
An ink adapted to become opaque and white when dry and suitable for application by pen or brush, consisting essentially of a solution in a volatile organic solvent of a cellulose ester and a soluble organic crystalline compound having a melting point above ordinary atmospheric temperatures and which is inert to the other ingredients.

2,460,947—Process for the Production of Yeast. Even Olof Rosenqvist, Rotebro, Sweden, assignor to Svenska Jästfabriks Aktiebolaget, a joint stock company of Sweden. Filed January 23, 1946 in Sweden, November 25, 1943. Issued February 8, 1949.

In a process for the production of yeast, useful as foodstuffs and for other nutritive purposes, the step of propagating the yeast in a nutrient medium containing a mixture of molasses wort and still residues from fermented sulphite waste liquor obtained as residue after alcoholic fermentation of sulphite waste liquor and subsequent distillation of the alcohol wherein the pentoses contained in said still residues will be fermented during said propagation of said mixture.

2,461,008—Magnetic Separator. Roswell H. Stearns, Wauwatosa, Wis., assignor to Stearns Magnetic Mfg. Co., Milwaukee, Wis. Filed May 31, 1945. Issued Feb. 8, 1949.

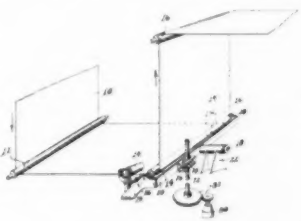
A permanent magnet spout type separator comprising a downwardly slanting spout down which a mixture of magentic and nonmagnetic material is adapted to slide, a plurality of soft steel pole pieces of magnetizable material permanently mounted in said spout in position for the material to pass thereover, a magnet structure comprising in combination a permanent magnet



and a U-shaped yoke of magnetizable material hingedly supported from and below said spout and bodily movable as a composite unit upwardly into and out of contact with said pole pieces to respectively energize and deenergize said pole pieces, a trap gate carried by said spout for discharging magnetic material, and means for mechanically connecting said magnet structure and said trap gate to positively close and open said trap gate when said magnet structure is respectively moved into and out of contact with said pole pieces, the weight of said magnet structure being temporarily overcome by the magnetic attraction of said magnet structure to thereby hold said magnet structure temporarily in position against the action of gravity.

2,461,084—Weft-Straightening Apparatus. John D. Robertson, Taunton, Mass., assignor to Mount Hope Machinery Company, Taunton, Mass. Filed January 15, 1948—Issued Feb. 8, 1949.

In a weft-straightening apparatus, a frame, a web-engaging member having opposite end portions mounted on said frame, means at a mid-



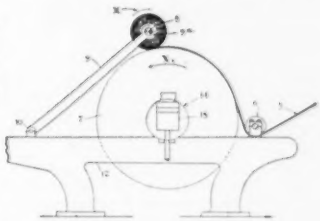
location along the frame in the general direction of extent of said member pivotally supporting the frame for movements of the opposite ends of said member in opposite directions away from a predetermined plane, and means carried on said frame for engaging opposite edge portions of a web approaching said web-engaging member and adapted to hold the opposite edge portions of the web against slippage on said member when the opposite ends of said member are moved in opposite directions away from said predetermined plane.

2,461,105—Bleaching of Cullulosic Matter. Rudolf Bloch, Jersusalem, Kurt Goldschmid, Tel Aviv, and Isaac Schnerb and Paul Goldschmidt, Jerusalem, Palestine. Filed December 17, 1946—Issued Feb. 8, 1949.

Process of bleaching cellulosic material which comprises treating it with an aqueous hypochlorite liquor having a pH of at least 7 and containing water-soluble gromide in an equivalent amount smaller than the available chlorine content of the liquor.

2,461,109 — Manufacture of Paper. Kay Crabtree, Crabtree Mills, Quebec, Canada. Filed September 30, 1944—Issued February 8, 1949.

The process of seasoning paper which comprises continually supplying the web as it comes from the dry end of the paper making machine



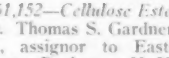
to and moving it in contact with a cold, moist, elongated surface and simultaneously chilling and moistening a substantial length and area of a side of the web during its contact with said surface, and then continually rolling up the so-moistened chilled web from said surface into a close coil and moistening the other side through transfer of moisture thereto by contact with the previously moistened side as the coil is formed, the moistening of the one side of the web and the chilling of the web by said surface being prolonged by contact of the web therewith until removed from said surface and coiled and the moistening of the opposite side of the web being continuous with the coiling of the web and continuous with the chilling and moistening by said contact surface.

2,461,139—Starch Ester Derivatives and Method of Making Same. Carlyle G. Caldwell, Forest Hills, N. Y., assignor to National Starch Products Inc., New York, N. Y., a corporation of Delaware. Filed January 8, 1945—Issued February 8, 1949.

An ungelatinized starch derivative comprising a reaction product of ungelatinized starch, water and an organic acid anhydride in an alkaline medium having a pH in the range of not substantially below 7 nor substantially above 11.

2,461,152—Cellulose Esters of Amino Acids. Thomas S. Gardner, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N. Y., a corporation of New Jersey.—Filed November 8, 1945—Issued February 8, 1949.

A mixed ester of cellulose of a lower fatty acid and an acid having the formula:

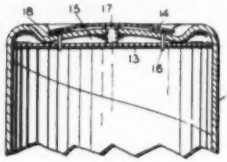


R being selected from the group consisting of aliphatic radicals and C_6H_5.

2,461,209 — Waterproof Shipping Container—Harold J. Grampp, Kenvill, N. J., assignor to Hercules Powder Company, Wilmington, Del. Filed December 10, 1946.—Issued February 8, 1949.

A waterproof shipping container comprising in combination a waterproof tubular receptacle having one end portion open and the other end

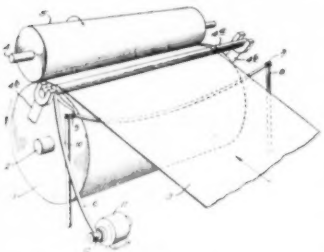
portion inwardly crimped to form a fluted end wall; an interior element of heavy cardboard or the like in juxtaposition to the interior surface of said fluted end wall; a waterproof, adhesive, and thermoplastic material substantially filling a



central cavity defined by the fluted end wall; securing means to secure said interior element to said fluted end wall; an adhesive sealing ring placed exteriorly to said fluted end wall; an exterior element of heavy cardboard or the like in juxtaposition to the exterior surface of said fluted end wall and retained in place by said sealing ring and said thermoplastic material; an end cover of like structure as the waterproof tubular receptacle and the open end portions of the receptcle and cover being adapted to being brought into abutment; and a waterproof adhesive-coated tape adapted to seal the joint formed by the abutment of said receptacle and cover and said tape adapted to be removed to permit disassembly of the container.

2,461,246—Web Severing Method and Apparatus. John Theodore Weyenberg, Kimberly, Wis., assignor to Paper Patents Company, Neenah, Wis. Filed Aug. 21, 1944—Issued Feb. 8, 1949.

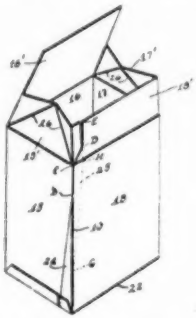
The method of severing a web which is being delivered to and wound upon a reel and of starting the winding of the severed leading end of the



web on an empty reel core, which consists in looping a tape or cord-like member around the empty core adjacent one end thereof, anchoring one end of the member beyond one side of the web to be severed, securing the other end of the member to tensioning means, said member being initially loosely disposed around said empty reel so as to permit the latter to rotate freely within the member looped therearound, and actuating said tensioning means so as to cause said member to engage said empty core with sufficient frictional force to cause the member to traverse the length of the empty core as an incident to the rotation thereof.

2,461,251—Container. Charles O. Ball, Maumee, and Franklin D. Scott, Toledo, Ohio, assignors to Owens-Illinois Glass Company. Filed March 12, 1945—Issued Feb. 8, 1949.

A blank of sheet material adapted to be folded for forming a container having a rectangular tubular body and a closed bottom end, said blank being of generally rectangular shape and having parallel score lines spaced to define the four sides of said body and along which the blank is adapted to be folded for forming said body, and a transverse score line in position to define the lower edge of the four sides of said body, the portion of the blank below said transverse score line being in the form of a bottom strip



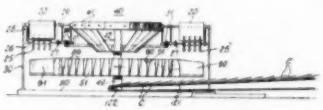
adapted to be folded inwardly and form the bottom end of the container, the blank including a side seam flap at one end thereof, one of said vertical score lines forming the inner edge of said flap, said flap being continued downward below said horizontal score line and through said bottom strip, whereby when the blank is folded to shape the container, the side seam is carried into a bottom end portion of the container, said side seam flap being tapered inwardly and upwardly from a point adjacent to said horizontal score line with the upper end of its outer edge terminating in a said vertical score line at a point spaced below the upper end of said body.

2,461,572—Process of Ripening Cellulose Esters. Robert D. Rowley and Robert F. Thompson, Narrows, Va., assignors to Celanese Corporation of America, a corporation of Delaware. Filed Nov. 6, 1945—Issued Feb. 15, 1949.

In a process for the production of highly stable organic acid esters of cellulose wherein cellulose is esterified with an aliphatic acid anhydride employing an aliphatic acid as solvent and an inorganic acid catalyst, the steps which comprise neutralizing the acid catalyst in the primary cellulose ester solution obtained on completion of esterification by adding a neutralizing agent thereto, positively heating the neutralized primary solution to a temperature above the esterification temperature and maintaining it at said elevated temperature for a short period of time while said solution contains unreacted aliphatic acid anhydride, adding water for ripening to said neutralized solution, and ripening the primary cellulose ester in solution to a secondary cellulose ester at an elevated temperature.

2,461,573 — Machine for Stuffing Newspapers or similar Sheet Material Assemblages. Paul Schweizer, Easton, Pa., assignor to T. W. & C. B. Sheridan Company, New York, N. Y. Filed April 2, 1945—Issued Feb. 15, 1949.

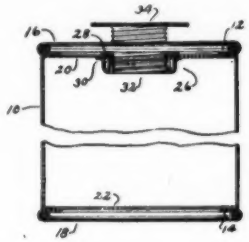
Machine for stuffing newspaper or like assemblies by insetting loosely within the folded jacket section one or more inner sections thereof, comprising an endless series of upright open-top conveying pockets with carrier mechanism to guide and advance the same around a horizontal orbit, a plurality of section feeding means operative at predetermined section receiving stations along such orbit and adapted to feed downwardly into each pocket during travel first a jacket section and therebeyound one or more inner sections, and means for opening the jacket section into V-form in each pocket before the reception of inner sections therein; each pocket being normally closed at bottom to retain received sections but openable for gravity delivery of the stuffed assemblage therefrom, and means for causing



such bottom opening of the successive pockets upon each thereof reaching a predetermined delivery station beyond such receiving stations thereby to deliver downwardly the successive stuffed products to an outfeeding means.

2,461,581—Container and Method of Manufacture. Allen B. Wilson, Evanston, Ill., assignor, by mesne assignments, of one-half to Kimberly Stuart and one-half to Elizabeth R. B. Stuart, both of Menasha, Wis. Filed Dec. 23, 1944—Issued Feb. 15, 1949.

A container comprising a hollow body with a continuous side wall formed of a sheet of paper-like material having reversely bent internal flanges along the two edges thereof at the ends



of said container, sheet metal reinforcing rims of generally C-shaped cross-section clenched along and about said edges with the opposite laterial edges of said rims hitting into the material of said sheet and flange respectively, the portion of each flange beyond its associated rim being formed into a series of radially inwardly projecting tabs; and end walls for the container each formed from a sheet of paper-like material disposed within said body portion at the inner side of the corresponding series of tabs and secured to said tabs.

2,461,632—Method of Nitrating Cellulose Lace-Backing Fabrics. Joseph Datlow, New York, N. Y. Filed, Jan. 24, 1947—Issued Feb. 15, 1949.

The process of producing lace backing fabric comprising treating natural cellulose, open mesh, fabric with mixed acid comprising from 60 to 40 parts by volume 97% nitric acid and from 40 to 60 parts by volume 75% phosphoric acid for about 0.5 minute and exposing the treated fabric to air for about 4.5 minutes.

2,461,302—Method of Flameproofing. John Truhlar, Clarendon Hills, and Athan A. Pantsios, Chicago, Ill., assignors to Rudolf F. Hlavaty, Cicero, Ill. Filed July 28, 1945—Issued Feb. 8, 1949.

The process of flameproofing a quantity of material which includes the steps of dipping the material in a solution of antimony chloride and an organic phosphite, and thereafter steaming the impregnated material to convert the antimony chlorides to antimony oxides, the said solution containing 80 parts acetone, 20 parts antimony trichloride, and 8 parts triamyl phosphite.

EQUIPMENT . . . .

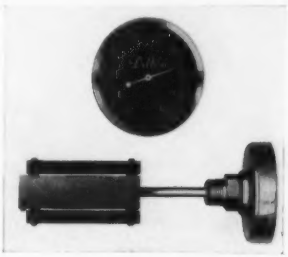
Automatic Unit Screen

The mechanically-cleaned bar screen with grinder for sewage plants is fully automatic and is adaptable for minimum channel widths and settings, or for parallel multiple installations for large flows, the manufacturer states. The smooth steel frame is inserted into slots formed in concrete channel walls with only four bolts required to mount screen on operating floor. Designed for channels from 2 ft. 6 in. to 5 ft. wide, with minimum depth setting at 2 ft. 6 in. Features pivoted rake which causes teeth to enter bottom of screen bars

horizontally, where rake gets *under* and picks up all screenings from bottom of screen. As rake rises at a point just above tray slide, it automatically drops and withdraws 45° radially, positively releasing screenings into the sorting tray, it is stated. From the tray, they are either flushed into the grinder — which is optional equipment — or into removable container. Total height of unit from mounting floor is 5 ft. Entire above-floor structure is enclosed with stainless steel panels secured by special quick-opening spring lock fasteners to permit easy access for inspection, adjustment and repair. Each unit comes furnished with automatic electrical control. Shear pin protection is provided for overloads. For details and prices write to American Well Works, Aurora, Ill.

Flat Stem Magnetic Thermometer

The flat stem magnetic thermometer was produced for applications where conventional round stem instruments are unsuited because of their shape. Instances cited are electric flat irons, griddles, transformers, engine blocks, air ducts, exhaust ports, etc. The large flat area is designed to gather quickly and retain heat from the surface under test, also to cover heat area like a blanket, where round stem units permit the heat to escape past them around each side of stem. Magnet enables the operator to place the thermometer on a flat surface and "peel" it off in an instance, saving time usually required for fitting of more complicated nature.

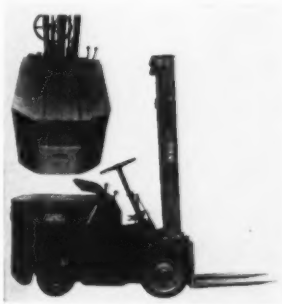


Dial sizes 1, 2¼, 3 and 5 ins. diameters. Stem lengths from 3 ins. to 42 ins. Calibration in either F. or C., scales in 9 ranges. Of 18-8 stainless steel, acid and rust resistant. For details and prices write to W. C. Dillow Co., 5410 W. Harrison street, Chicago 44, Ill.

Short-Turn Electric Forks

Special short-turn models of electric fork trucks are designed for increased maneuverability and faster handling in confined storage areas. Offered in the electric battery-powered Clipper, Carloader and Utilitruc models featuring reduced turning radii, in 2000-, 4000-, and 7000-pound capacities respectively.

Redesign of the trucks' battery compartments and counterweights to provide angled corners is said to have reduced the turning radii by 6½ ins. on the 2000-pound truck, by 6¼ ins. on the 4000-pound, and by 6 ins. on the 7000-pound truck.



The special models have been tested by extensive use in congested areas where they have demonstrated a high degree of fast maneuverability in narrow aisles and in loading and unloading carriers, the manufacturer states.

Available also for export sale. For details and prices write to Clark Equipment Co., Industrial Truck Div., Battle Creek, Mich.

Rubber Faced Plug Valve

A rubber-faced plug is described as one of three features of the new plug valve designed for both high and low vacuum service on lines carrying gases or liquids. Operatnig principle involves an eccentric plug face and raised seat in the valve body. Carried on journals at both ends, the plug contacts the body seat only when valve is completely closed. When the plug begins to rotate, the face is immediately released from contact with the body seat with no seizing, binding or scoring, it is stated, and line pressures to 150 psi do not distort or stretch the rubber sealing member. Rubber face of plug is designed to eliminate dripping, a perfect closure being obtained even when flow contains rust, scale, sand and abrasive slurries. Excellent abrasion resistance, high tensile strength also are claimed for the valve. Made of Goodrich Hycar, a special purpose oil and gas-resistant rubber of the nitrile type, selected for its resistance to most chemical and petroleum products, as for its good bonding to metal, a requisite in molding to a metal core. Resistance to dimensional changes and a minimum cold flow under load were also required. For details and prices write to De Zurik Shower Co., Sartell, Minnesota, or to J. F. Moriarty, B. F. Goodrich Chemical Co., Rose Bldg., Cleveland, Ohio.

PH Stainless Steel

PH Stainless Steel is announced as a "precipitation hardening" alloy for gears, cams, bolts, valves, shafting and pump parts in chemical processing and allied equipment. Containing 17 percent chromium, 4 percent nickel and 4 percent copper, has corrosion-resistance approaching that of 18-8 stainless steel, is not subject to intergranular corrosion, and has the hardness and strength of less corrosion resistant, standard grades of hardenable stainless steel, it is stated. Said to be magnetic in all conditions. Requiring only a single hardening treatment at 850 to 1000°F., it eliminates hardening cracks, distortion, internal stresses and objectionable scaling—problems in standard heat treating. Parts made of the alloy can be finish machined before hardening without the necessity of expensive machining or grinding after hardening, manufacturer states. Available as bar and wire in either annealed or hardened condition. For details and prices write to A. M. Lennie, Armco Steel Corp., Middletown, Ohio.

Absolute Pressure Gauge

The absolute pressure gauge is announced a mechanical-type recording instrument based on an entirely new principle involving a pressure-sealed lever arm so constructed as to be frictionless, entirely free from lost motion, and free of turning moments due to changes in differential pressure across it. Known as Series 500 Recording Absolute Pressure Gauge, the unit comes in ranges from 0 to 20 millimeters mercury up. For details and prices write Bristol Co., Sales Promotion Dept., Waterbury 91, Conn.

INDUSTRIAL PRODUCTION, BY INDUSTRIES

(Without Seasonal Adjustment)

[Index numbers of the Board of Governors, 1935-39 average = 100]
Source: Federal Reserve Bulletin, July, 1949

Industry	1948 May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	1949 Jan.	Feb.	Mar.	Apr.	May
Paper and Paper Products	*170*	*165*	*149*	*165*	*166*	*172*	*170*	*153*	*163*	*158*	*151*	*146*	*144*
Paper and pulp	164	160	145	160	160	167	163	149	158	154	r148	r142	139
Pulp	188	183	170	191	181	194	189	173	189	183	176	167	166
Groundwood pulp	112	107	104	107	103	109	110	107	105	100	102	97	98
Soda pulp	112	111	96	110	107	111	107	104	107	108	106	100	97
Sulphate pulp	309	301	283	328	301	330	317	285	327	309	291	274	273
Sulphite pulp	151	146	135	148	145	153	149	137	145	145	r142	135	134
Paper	160	156	141	156	156	163	159	146	153	150	143	r138	135
Paper board	191	187	165	184	189	193	195	167	182	174	163	162	162
Fine paper[2]	86	86	74	83	83	...	...	...	...	...	...	...	...
Printing paper	169	168	150	160	161	172	165	160	157	158	r155	r151	151
Tissue and absorbent paper	169	160	153	161	163	172	162	153	159	163	160	r153	141
Wrapping paper	150	145	135	153	148	157	150	142	151	147	r138	r123	115
Newsprint	100	99	95	99	98	100	99	98	99	98	99	99	101
Paperboard containers (same as Paperboard)	...	...	...	...	...	...	...	...	...	...	...	...	...

p Preliminary. *r* Revised. [1] Series included in total and group indexes but not available for publication separately.
[2] This series is in process of revision.

NOTE.—For description and back figures see BULLETIN for October 1943, pp. 940-984, September 1941, pp. 878-881 and 933-937, and August 1940, pp. 753-771 and 825-882.

HOURS AND EARNINGS OF PRODUCTION WORKERS IN MANUFACTURING INDUSTRIES

[Compiled by the Bureau of Labor Statistics]

Industry group	Average hours worked per week: 1948 Apr.	May	1949 Jan.	Feb.	Mar.	Apr.	May	Average hourly earnings (dollars per hour): 1948 Apr.	May	1949 Jan.	Feb.	Mar.	Apr.	May
All manufacturing	*40.1*	*39.9*	*39.5*	*39.3*	*39.0*	*38.3*	*38.6*	*1.292*	*1.301*	*1.380*	*1.377*	*r1.374*	*1.376*	*1.375*
Durable goods	*40.5*	*40.1*	*40.2*	*39.9*	*39.4*	*39.0*	*39.1*	*1.357*	*1.366*	*1.460*	*r1.459*	*1.456*	*1.458*	*1.456*
Nondurable goods	*39.6*	*39.6*	*38.7*	*r38.8*	*38.6*	*37.6*	*38.0*	*1.220*	*1.230*	*1.293*	*1.289*	*1.288*	*1.286*	*1.289*
Paper and allied products	42.7	42.8	41.5	41.4	r41.0	40.3	40.3	1.350	1.269	1.336	1.335	1.331	1.330	1.331

r Revised.

NOTE.—Figures for May 1949 are preliminary. Back figures are available from the Bureau of Labor Statistics.

FACTORY EMPLOYMENT AND PAY ROLLS, BY INDUSTRIES

(Without Seasonal Adjustment)

[Index numbers of the Bureau of Labor Statistics, 1939 = 100]

Industry group or industry	Factory employment: 1948 Apr.	May	1949 Jan.	Feb.	Mar.	Apr.	May	Factory pay rolls: 1948 Mar.	Apr.	May	1949 Jan.	Feb.	Mar.	Apr.
Paper and Allied Products	*146.8*	*146.5*	*147.5*	*145.4*	*143.6*	*141.4*	*140.1*	*330.8*	*325.7*	*331.1*	*341.9*	*335.3*	*327.6*	*317.0*
Paper and pulp	148	149	148	147	145	144	....	336	333	343	349	341	332	323
Paper goods, n.e.c.	163	163	165	163	162	160	....	354	351	355	381	381	368	360
Paper boxes	134	132	136	133	130	128	....	303	293	290	306	297	293	280

r Revised.

NOTE.—Underlying figures are for pay roll period ending nearest middle of month and cover production workers only. Figures for May 1949 are preliminary. Back data for industries not here shown may be obtained from the Bureau of Labor Statistics.

LITERATURE

American Well Works, Aurora, Ill. Technical Supplement, MS 1-6, "Mechanically Cleaned Bar Screens." Describes and illustrates the new mechanically cleaned unit screen with grinder, and the heavy-duty type screen for larger installations; also provides technical data, foundation plans, exploded views and specifications. The first of a series of supplements to cover entire line of equipment and processes.

Black-Clawson Co., Hamilton, Ohio. House Organ, "The Messenger," No. 261, dedicated to Fairfield Paper & Container Co., Baltimore, Ohio.

Celanese Corp. of America, 180 Madison avenue, New York 16, N. Y. Leaflet, "Celanese Plastics," Vol. 7, No. 7, July, 1949. Features Lumararith Plastic.

Foster Wheeler Corp., 165 Broadway, New York 6, N. Y. Brochure, "Simplified Vertical Tubular Heater." Includes a complete description for this design which features the use of bare tubes and absence of exposed metal parts.

Henry A. Gardner Laboratory, Inc., Apparatus Div., 4723 Elm street, Bethseda, Md. Bulletins, July 1949, "Dust-Free Tester."

Gould Storage Battery Corp., Trenton, N. J. Reprint, "New Grid Casting Improves Battery Life," from *The Iron Age*, June 9, 1949; also brochure, "New Gould Z Plate."

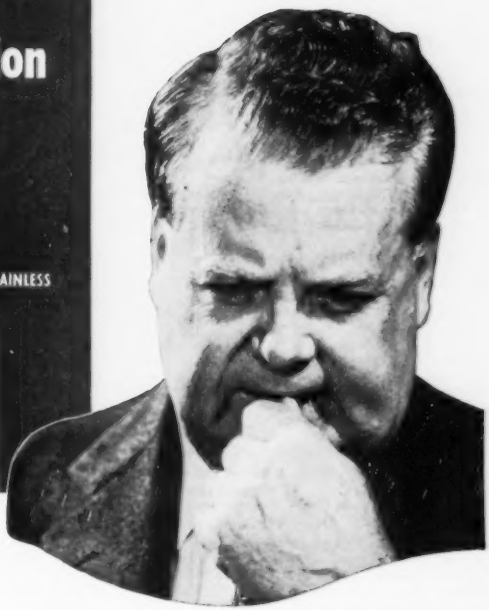
International Nickel Co., Inc., 67 Wall street, New York 5, N. Y. Bulletin, "How to Eliminate Unnecessary Shutdowns." Presents in brief form technical information on materials used for equipment in pulp and paper mills, with special attention to washers, deckers, savealls, thickeners and filters.

Kennedy Valve Mfg. Co., Elmira, N. Y. "Circular 101, Kennedy Bronze Globe and Angle Valves with Renewable Composition Discs." A large blow-up of sectional drawings of Kennedy Figure 89 gives visual reference and explanation of the complete valve.

Minneapolis-Honeywell Regulator Co., Wayne and Roberts avenues, Philadelphia 44, Pa. Bulletins, 254-1 "Schaefer By-Pass" and 350-1 on "Belfield 'On-Off' Air-Operated Diaphragm Control Valve."

Rohm & Haas Co., Resinous Products Div., Washington square, Philadelphia 5, Pa. Circular, "Mixing of Exchangers Simplifies Water Softening Installations." Research report for firms which install ion exchange units for low-cost softening of domestic water supplies and process and boiler-feed waters.

Southern Newspaper Publishers Assn., Chattanooga, Tenn. Bulletin Special, July 9, 1949, "Turning Trees Into Paper," and other pertinent items.



Don't Guess!

. . . take it up with Tubing Headquarters

TUBING in paper mill service is so important that it deserves the best engineering advice you can get on its selection and use. We are prepared to give you just that.

There are two reasons why we at NATIONAL Tube can help you obtain better results from tubing applications—why it will pay you to put your tubing problems up to us.

First, because NATIONAL Tube Company makes seamless steel tubing in the widest range of sizes and wall thickness and in a *complete* range of steel grades—from low carbon to the finest alloy and stainless steel—able to take care of any paper mill requirement, whether simple or unusually severe.

And, second, because we never lose sight of the fact that every installation is an individual problem in material selection, and must be treated as such.

As a result, our recommendations are based solely on the particular requirements your service involves. In other words, *we fit the tubing to the job, not the job to the tubing.*

If you want that kind of approach to your tubing problems bring them to us.

NATIONAL TUBE COMPANY, PITTSBURGH, PA.
(TUBING SPECIALTIES DIVISION)
COLUMBIA STEEL COMPANY, SAN FRANCISCO, PACIFIC COAST DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

NATIONAL (WALLS WITHOUT WELDS) *Seamless*

PIPE AND TUBES

USS

UNITED STATES STEEL

PRICES . . . . . .

The prices below reflect general market quotations applying to those standard grades in which the normal volume of business is being done.

NEW YORK

Delivered New York

Standard News per ton—

Rolls, contract	$100.00	—
Sheets	113.00	—

F.o.b. Mill, Varying Freight Allowances

Kraft— per cwt., 40# base wgt.

Standard Wrapping Rolls	$6.25	$6.75
No. 1 Wrapping Rolls	7.00	7.50
Standard Bag	5.75	6.25

Tissues— per ream 24x36 (480) 10/11 lbs. 2500 lbs. or more

Wh. No. 1 Frd.	$160.00	—
Wh. No. 1 M. G.	150.00	—
Wh. No. 1½	150.00	—
Wh. No. 2	1.17½	1.20
Kraft Anti-Tar	1.45	1.50
Shrd. Wh. No. 1 per lb.	.11½	—

Toilet— per case of 100 rolls—1 M. sheets.

Unbleached 4½x4½	$5.75	—
Bleached 4½x4½	6.95	—
Bleached 4½x5	8.80	—

Per Case of 50 rolls—2000 sheets

Unbleached 4½x4½	$5.75	—
Bleached 4½x4½	6.80	—

Per Case of 100 rolls—1000 sheets

Facial, 4½ x 5, 2 ply	$8.95	$9.45

Paper Towels—per case of 3750—Zone 1.

Wh. Jr. M'tif'd 9¼x9½	$5.25	
Br. Sr. M'tif'd 10x12	3.60	
Br. Jr. M'tif'd 9½x9¾	3.10	
Br. Jr. Sgl. fold 10x10¾	3.15	
Blchd. 7½ x 11, 24/25 rolls	$3.95	$6.25

Manila, per cwt.

No. 1 Jute Tag 40 lb., sheets*	$15.05	$17.50
Reg. Jute M.F. Manila, sheets*	13.50	15.50
Wrapping Manila	8.75	10.50
Printing Manila	10.00	11.00

* Less usual allowance for rolls.

Boards, per ton—

Filled News	$65.00	$67.50
Plain Chip	65.00	—
Blchd. Mla. L-d. Chip*	92.50	—
White Pat. coated*	110.00	
Kraft Liners 42 lb.	100.00	
Kraft Corr. .009	105.00	
Binders Boards	110.00	116.00

* Base Prices per 10 tons. Less than 10 tons but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

The following prices are representative of distributors' resale prices, all deliveries in Zone 1:

Rag Content Bonds and Ledgers—
White, 20 lb.

Bonds

	4 Ctns. per cwt.
100% Rag Ex. No. 1	$51.40/$53.90
100% Rag	44.55/ 46.15
75% Rag	33.90/ 35.40
50% Rag	28.10/ 29.55
25% Rag	24.85/ 26.80

Ledgers

	4 Ctns. per cwt.
100% Rag Ex. No. 1	$52.65/$54.55
100% Rag	45.65/ 46.40
75% Rag	35.15/ 36.10
50% Rag	29.40/ 30.05
25% Rag	26.15/ 26.80

Sulphite Bonds and Ledgers
White, 20 lb.

Bonds

	4 Ctns. per cwt.
No. 1	$17.50/ —
No. 2	16.65/ 16.75
No. 4	15.60/ 15.95

Ledgers

	4 Ctns. per cwt.
No. 1	$18.80/ —
No. 2	18.05/ —

White Book

	Case
Conversion Coated	per cwt.
No. 1	$19.75/$20.90
No. 2	19.25/ 19.65
No. 3	17.75/ 18.90
Machine Coated	
No. 1	16.40/ 16.65
No. 2	14.90/ 15.15
Uncoated	
No. 1 Antique (Watermarked)	16.40/ 17.90
Offset	15.15/ 16.65
A Grade E. F.	15.40/ —
A Grade S. C.	15.90/ 16.15
B Grade E. F.	14.90/ 15.15
B Grade S. C.	15.40/ 15.65

Twines
All Prices Nominal, F.o.b. Mill

(Soft Fiber)	
Coarse Polished—India	.35½/ .36½
Fine Polished India	.41½/ .45
Unpolished—Paper Makers	.32¼/ .34½
Tube Rope	.33¼/ .35½
Wrapping	.36 / .38¼
Cotton	.58 / .60
Polished Cotton	.55 / —
(Hard Fiber)	
Mex. Sisal	.21 / .27
(American Hemp)	
Polished Hemp	.45 / .48
Unpolished	.35 / .37½

WORLD WOOD PULP MARKETS

Third Quarter Contract Prices, Per Short Air-Dry Ton

	Delivered, with varying freight allowances		On dock Atlantic Ports Full freight allowance		
	U. S.	Canadian	Swedish	Finnish	Norwegian
Groundwood	$65.00/ —	$65.00/ —			
Soda, Bleached	113.00/ —	113.00/ —		Competitive	
Sulphate, Bleached	118.00/126.00	126.50/ —	125.00/128.00		
Sulphate, Unbl'd North'n	— / —	82.50/105.00	94.00/ —	with	
Sulphate, Unbl'd South'n	80.00/ —				
Sulphite Blchd. (S'ftw'd)	118.00/ —	118.00/ —	118.00/ —	Domestic	Competitive
Sulphite, Blchd. (H'dw'd)	113.00/ —				
Sulphite, Unbleached	100.00/ —	100.00/ —	100.00/ —	Grades	
Sulphite, Unbl'd (Glassine)	105.00/ —	105.00/ —	104.00/105.00		

WASTE PAPER MARKET

Prices to Mills. Quotations Nominal
F.O.B. Shipping Point (Per Ton)

	New York July 11	Philadelphia July 12	Boston July 25	Chicago July 7
No. 1 Mixed Paper	$2.00/ $3.00	$3.00/ $4.00	Nominal	$5.00/ —
Boxboard Cuts	2.00/ 3.00	2.00/ 3.00	— / 5.00	8.00/ —
Mill Wrappers	14.00/ 15.00	8.00/ 10.00	— / 9.00	7.00/ —
No. 1 News	7.00/ 8.00	5.00/ 7.00	— / 9.00	11.00/ —
Over-issue News	15.00/ 16.00	9.00/ 11.00	8.00/ 10.50	14.00/ —
Corrugated Containers	9.00/ 11.00	10.00/ 11.00	8.00/ 10.50	12.00/ —
New Corrugated Cuts	13.00/ 15.00	18.00/ 20.00	16.00/ —	15.00/ —
Double Kraft Ld. Corr. Cuts	30.00/ —	25.00/ 30.00	25.00/ —	25.00/ 30.00
Used Kraft Bags	25.00/ —	15.00/ 17.00	25.00/ 30.00	15.00/ —
No. 1 Brown Kraft Paper	25.00/ —	21.00/ —	25.00/ —	15.00/ —
Super Resorted Br. Kraft	25.00/ 30.00	30.00/ —	40.00/ —	30.00/ —
New Br. Kraft Env. Cuts	55.00/ 60.00	60.00/ 65.00	60.00/ 65.00	50.00/ —
New Br. Kraft Cuts	40.00/ 45.00	55.00/ —	45.00/ —	45.00/ —
No. 1 Gdwd. Shvs.	15.00/ 20.00	12.00/ 15.00	25.00/ —	16.00/ —
White Newsblanks	45.00/ 50.00	30.00/ —	— / 50.00	30.00/ —
No. 1 Flyleaf Shvs.	25.00/ 30.00	15.00/ 17.00	35.00/ 40.00	30.00/ —
No. 1 Soft Wht. Shvs.	65.00/ 70.00	55.00/ 60.00	70.00/ 80.00	55.00/ —
Super Soft Wht. Shvs.	85.00/ 90.00	60.00/ 65.00	80.00/100.00	65.00/ —
Hd. Wht. Shvs.	80.00/ 90.00	70.00/ 75.00	80.00/ —	80.00/ —
Hd. Wht. Env. Cuts	95.00/100.00	90.00/ 95.00	90.00/105.00	90.00/ —
New Manila Env. Cuts	60.00/ 70.00	60.00/ —	60.00/ 70.00	55.00/ —
Col. Tab Cards	25.00/ 30.00	20.00/ 25.00	— / —	30.00/ —
Manila Tab Cards	60.00/ 65.00	60.00/ 65.00	65.00/ 75.00	50.00/ —
No. 1 Mixed Ledger	27.50/ 30.00	20.00/ 25.00	37.50/ —	30.00/ —
White Ledger	35.00/ 40.00	30.00/ 35.00	45.00/ 50.00	40.00/ —
Mixed Books & Mags.	7.00/ 8.00	4.00/ 5.00	12.00/ —	7.00/ —
No. 1 Rep'd Hvy. Books & Mags.	15.00/ 17.00	8.00/ 10.00	22.00/ 23.00	20.00/ —

Rag Market

New Domestic Cotton Cuttings
(Prices to Dealers, F.o.b. Ship. Pt.)

	Per 100 lbs.	
White Shirt	$10.00/	$10.50
Unbleached Muslin	10.00/	10.50
Light Silesias	7.00/	7.50
White Back Blue Overalls	6.25/	6.50
Blue Overalls	6.00/	6.25
Fancy Shirt	4.50/	5.00
Percales	5.50/	6.00
Light Prints	5.50/	6.00
No. 1 Washables	2.75/	3.00
Bleachable Khaki	5.00/	5.50
Unbleachable Khaki	4.50/	5.00
Cottonades	4.25/	4.75
Lt. Flannelettes	7.00/	7.50
Men's Corduroy	3.50/	4.00
Women's Corduroy	3.00/	3.50

Old Domestic Cotton Rags
(Prices to Dealers, F.o.b. Ship. Pt.)

	Per 100 lbs.	
No. 1 Whites, Repacked	**$4.25/**	**$4.75**
No. 1 Whites, Miscellaneous	3.50/	4.00
No. 2 Whites, Repacked	2.75/	3.00

No. 2 Whites, Miscellaneous	2.00/	2.25
Cotton Pants & Overalls	2.50/	2.75
Thirds and Blues, Repacked	2.00/	2.25
No. 1 Roofing Rags	1.25/	1.35
No. 2 Roofing Rags	1.00/	1.20
No. 3 Jute Bagging	**.95/**	**1.05**
No. 4 Brussels & hrd. Bek'd crpts.	**.90/**	**1.00**
Roofing Bagging	**.80/**	**.95**

New Foreign Cotton Cuttings
(Prices to Dealer, F.o.b. Dock, N. Y.)

	Per 100 lbs.
New Dark Cuttings	
New Mixed Cuttings	
Light Silesias	prices
Light Flannelettes	
New White Cuttings	are
New Unbleached Cuttings	
Fancy Shirt Cuttings	nominal
Light Prints	
Bleachable Khaki, No. 1	
Unbl. Khaki, No. 1	

Old Foreign Rags
(Prices to Dealer, F.o.b. Dock, N. Y.)

	Per 100 lbs.
No. 1 White Cottons	
No. 2 White Cottons	
No. 3 White Cottons	
No. 4 White Cottons	prices
Extra Light Prints	
Old Light Prints	
Med. Light Prints	are
Dutch Blue Cottons	
Checks and Blues	
Linsey Garments	nominal
Dark Cottons, European	
Dark Cottons, Egyptian	
Old Shopperies	
New Shopperies	

Bagging
(Prices to Dealers, f.o.b. N. Y.)

	Per 100 lbs.	
Foreign Gunny, No. 1	**$7.50/**	**$8.00**
Domestic Gunny, No. 1	7.50/	8.00
Heavy Wool Tares	6.50/	7.00
No. 1 Scrap Bagging	**4.75/**	**5.00**
Foreign Manila Rope	**5.50/**	**5.75**
Domestic Manila Rope	**5.50/**	**5.75**
Jute Strings	**6.25/**	**6.50**
No. 1 Sisal Strings	5.00/	5.25
Mixed Strings	**1.15/**	**1.30**

PHILADELPHIA

Domestic Rags (new)
(F.o.b. Eastern Shipping Point)

	Per 100 lbs.	
White Shirt	**$10.25/**	**$10.50**
Fancy Shirts	3.00/	3.25
Light Silesias	**6.75/**	**7.00**
Unbleached Muslin	**10.00/**	**10.25**
Light Prints	**5.25/**	**5.50**
Washable No. 1	2.75/	3.25
Blue Overall	**6.00/**	**6.25**
Percales	**5.50/**	**5.75**
Unbleachable Khaki	3.50	4.00
Bleachable Khaki	4.50/	5.00
Men's Corduroy	3.75/	4.25
Ladies' Corduroy	3.25/	3.75
Cottonades	3.75/	4.00

Domestic Rags (old)
(F.o.b. Eastern Shipping Point)

	Per 100 lbs.	
Mixed White	$3.00/	3.25
Thirds and Blues Repacked	2.25/	2.50
Cotton Pants & Overalls	2.75/	3.00
No. 1 Roofing Stock	1.00/	1.10
No. 2 Roofing Stock	.90/	1.00
Roofing Bagging	.80/	.90

Bagging
(F.o.b. Eastern Shipping Point)

	Per 100 lbs.	
Old Manila Rope	$5.50/	—
Foreign Gunny No. 1	**8.00/**	**—**
Domestic Gunny No. 1	**8.00/**	**—**
Sisal Strings No. 1	3.50/	—
No. 1 Scrap	4.50/	5.00
No. 1 Jute Rope	6.00/	—

BOSTON

Bagging
(F.o.b. Boston)

	Per 100 lbs.	
Foreign Gunny	$7.50	/$8.00
Domestic Gunny	7.50	/ 8.00
Domestic No. 1 Old Rope	6.00	/ 6.25
Foreign No. 1 Old Rope	**6.50**	**/ —**
Mixed Strings	1.35	/ —
Transmission Rope—Domestic	**3.00**	**/ 3.50**
Jute Carpet Threads	—	/ 4.00
Bleachery Burlap	—	/ 9.00
Scrap Burlap—		
Foreign	—	/ 5.75
Domestic	—	/ 5.75
South America	6.00	/ 6.50
Austr. Wool Pouches	8.25	/ —
New Zealand Wool Pouches	—	/ 6.00
New Burlap Cuttings	7.50	/ 8.00
Heavy Baling Bagging	7.50	/ 8.00
Paper Mill Bagging	—	/ 5.00

Domestic Rags (new)
(F.o.b. Boston)

	Per 100 lbs.	
New Light Prints	5.75	/ 6.00
Fancy Percales	6.00	/ 6.25
White No. 1 Shirt	10.00	/10.75
Light Flannelettes	—	/ 7.00
Canton Flannels, Bleached	—	**/ 9.00**
Underwear Cutters, Bleached	10.75	/11.25
Underwear Cutters, Unbleached	10.00	/10.25
Blue Overalls	5.75	/ 6.25
Soft Unbleached	9.75	/10.50
Blue Cheviots	5.75	/ 6.25
Fancy Shirt	4.00	/ 4.50
Washable	3.25	/ 3.50
Khaki Cuttings	5.00	/ 5.25
Men's Corduroy	**4.50**	/ —
Khaki Canvas	—	/ 5.50
B. V. D. Cuttings	10.00	/10.25

Domestic Rags (old)
(F.o.b. Boston)

	Per 100 lbs.	
No. 1 Whites, Repacked	3.00	/ 3.50
No. 1 Whites, Miscellaneous	2.50	/ 3.00
Twos and Blues, Repacked	—	/ 2.00
Cotton Pants & Overalls	2.50	/ 2.75
No. 1 Roofing Stock	1.00	/ 1.10
No. 2 Roofing Stock	.90	/ .95
Roofing Bagging	—	/ .70

MARKETS

Blanc Fixe

Prices firm. Demand moderate. Supply adequate. Currently quoted at $85.00 in bags, car lots, at works, 6 cents per pound, l.c.l., deld. By-product supply somewhat restricted. Quoted at $77.50 per ton, car lots, at works, 6 cents per pound, l.c.l., deld.

Bleaching Powder

Prices steady. Demand easy. Prices range from $4.25 to $4.75 per 100 pound drums, l.c.l., works.

Casein

Market dullness pronounced. Argentine prices easier. Current prices on processed acid precipitated casein at 19 to 21 cents per pound for domestic grades and 19½ to 19½ cents for imported grades, f.o.b. shipping point, car lots.

Caustic Soda

Prices firm. Supplies available for prompt shipment. L.c.l. sales reported at competitive levels. Solid caustic is reported at $3.05 per cwt. flaked and ground is quoted at $3.45 per cwt., in 400 pound drums, $3.95 per cwt. in 100 pound drums—car lots at works; liquid 50 per cent in tank cars at $2.40 per cwt.; liquid 73 per cent in tank cars at $2.50 per cwt., at works.

China Clay

Prices firm. Demand easier, supply of domestic and imported ample. Domestic filler quoted at $10 to $12.50 per ton, car lots, f.o.b. mines. Coating clay is $15 to $25. Imported clay quotation, short tons, $16 to $35, export warehouse.

Chlorine

Supply condition tightened by seasonal water requirements. Prices firm. Currently quoted at $2.40 per cwt. in single unit tank cars; at $2.70 to $3.90 per cwt. in multi-tank cars, f.o.b., works.

Rosin

No offerings on open market. Heavy ECA export business and domestic inquiry is developing. Gum rosin in drums per 100 pounds net in car lots, f.o.b. Savannah, B, $5.75; G, $6.42; H, I, K, $6.44; wood rosin, per 100 lbs., car lots f.o.b. Savannah; B, $4.25; FF, $5.50.

Rosin Size

Supply good. Demand steady. Seventy percent gum and pale wood grades, tank cars, $5.45 to $5.55 f.o.b. southern shipping point.

Salt Cake

Prices cut $2.00 a ton. Demand fair. Domestic quoted at $22.00/$24.00, f.o.b. shipping point, freight allowed to destination.

Soda Ash

In free supply. Demand easier. Prices firm. Current prices, car lots per 100 pounds; in bulk, $1.15; in paper bags, $1.40; and in barrels, $1.90.

Starch, Corn

Prices steady at new level. Demand fair. Supply ample. Pearl grade currently quoted at $4.92 per 100 pounds; powdered starch at $5.03 per 100 pounds; car lots, f.o.b. Chicago.

Starch, Potato

Prices stronger. Moderate paper demand. Idaho quantities limited to warehouse. High grade quoted at $7.00 cwt., l.c.l., ex N. Y. whse. Supply tight. Ample Maine supply quoted $4.88, f.o.b. Maine warehouse; pearl grade, $4.73 cwt. f.o.b. Maine.

Sulphate of Alumina

Prices firm Supply good. Demand steady. The commercial grades are quoted from $1.50 per 100 pounds, in bags, car lots, f.o.b. works. Iron free is $2.50 per 100 pounds in bags, car lots, at works.

Sulphur

Prices firm. Demand sustained at good level. Supply good. Annual contracts are quoted at $18 per long ton, f.o.b. mines; $19.50, f.o.b. vessels, Gulf ports. Export price f.o.b. Gulf ports is $22.00 per long ton.

Talc

Prices steady. Demand continues ahead of supply. Domestic grades are currently quoted at $23 per ton in paper sacks, f.o.b. mills; Canadian at $35 and up per ton. All prices in car lots.

Tapioca Flour

New supplies arriving. Superior high range from $9.85 to $11.00 cwt.; high grades $8.60/$9.50 cwt., on dock Atlantic and Gulf ports; medium grades range from $8.25/— cwt. on dock, N. Y.

Titanium Dioxide

Prices firm. Supply reported now in balance with eased demand. Anastase 19½¢ pound carload lots, 20c l.c.l., rutile, 21½¢ pound carload lots, 22½¢ l.c.l.; 50-pound bags, f.o.b. plant, actual freight allowed.

IMPORTS — EXPORTS

IMPORTS AT NEW YORK

Week Ending July 30

Newsprint

Madden Reeve Angel & Co., Inc., Mormacport, Helsingfors, 152 rolls.

H. C. Craig & Co., Newscarrier, Donnacona, 397 rolls.

Madden Reeve Angel & Co., Inc., Gullmaren, Stockholm, 182 rolls.

News Syndicate Co., Colabee, Baie Comeau, 7621 rolls.

Madden Reeve Angel & Co., Inc., Pankakoski, Kotka, 361 rolls.

Madden Reeve Angel & Co., Inc., Pankakoski, Rauma, 1726 rolls (to Alexandria, Va.).

R. A. Olsen Inc., A.C.D., Donnacona, 387 rolls.

News Syndicate Co., Ethel Tombs, Gatineau, 325 rolls.

Cigarette Tipping Paper

Columbia Tobacco Co., Mauretania, Southampton, 1 cs.

Photo Paper

Ako Photo Supply Corp., Mauretania, Southampton, 3 cs.

Paper Serviettes

A.C.O. Leather Goods Co., American Leader, Hamburg, 56 bls.

Wrapping Paper

Jay Madden Corp., Mormacport, Helsingfors, 78 rolls.

Surface Coated Paper

Gevaert Co. of America, American Jurist, Antwerp, 17 cs.

Rags, Baggings, etc.

Chase National Bank, Lindi, Antwerp, 140 bls. cotton waste.

J. Eisenberg Inc., Agwistar, Vera Cruz, 13 bls. wool rags.

National City Bank, Kristina Thorden, Gothenburg, 147 bls. burlap bagging.

(———t, Bryjne, Antwerp, 100 bls. flaxwaste.

Ayres W. C. Jones Co., American Builder, Manchester, 31 bls. cotton waste.

J. Stein, Brazil, Buenos Aires, 91 bls. rags.

Old Rope

National City Bank, City of Christiania, Calcutta, 160 bls. old hemp rope cuttings.

C. Smiles, City of Christiania, Calcutta, 250 bls. old hemp rope cuttings.

National City Bank, Ernebank, Calcutta, 70 bls. old rope cuttings.

Casein

The Borden Co. Chemical Division, Brazil, Buenos Aires, 100 bags (ground lactic).

American British Chemical Supplies, Brazil, Buenos Aires, 300 bags (lactic).

American Cyanamid Co., Brazil, Buenos Aires, 800 bags (ground lactic).

Woodpulp Boards

Jay Madden Corp., Gullmaren, Stockholm, 2 rolls.

IMPORTS AT NEWARK

Week Ending July 30

Cellulose Sales Co., Vasaholm, Ortviken, 870 bls. sulphite pulp, 900 bls. dry sulphite pulp, 1800 bls. kraft sulphate pulp.

Cellulose Sales Co., Vasaholm, Essvik, 1500 bls. dry sulphite pulp.

IMPORTS AT ALBANY

Week Ending July 30

Cellulose Sales Co., Vasaholm, Obbola, 4200 bls. dry sulphate pulp.

Perkins Goodwin & Co., Vasaholm, Svano, 3048 bls. strong sulphite pulp.

Cellulose Sales Co., Vasaholm, Ortviken, 1800 bls. dry sulphite pulp.

Perkins Goodwin & Co., Vasaholm, Norrsundet, 2500 bls. dry sulphate pulp.

Pulp Sales Corp., Pankakoski, Rauma, 1260 bls. prime strong bleached sulphite pulp, 957 bls. prime strong unbleached sulphite pulp, 1183 bls. prime extra strong bleached sulphite pulp, 2465 bls. prime unbleached kraft sulphite pulp.

National City Bank, Pankakoski, Rauma, 280 bls. prime unbleached sulphate pulp.

IMPORTS AT BOSTON

Week Ending July 30

W. Barnet & Sons, American Jurist, Antwerp, 6 bls. rags.

(———), American Jurist, Antwerp, 52 bls. cotton waste.

IMPORTS AT NORFOLK

Week Ending July 30

Loumar Textile Byproducts Co., American Builder, Manchester, 47 bls. old bagging.

Carolina Bagging Co., American Builder, Manchester, 76 bls. old bagging.

Castle & Overton, Inc., American Builder, Glasgow, 309 bls. new heavy burlap bagging.

No Lack of Dollar Exchange in Syrian-Lebanese Trade†

By J. M. BOYER
Canadian Govt. Trade Commissioner

OTTAWA—Syria and Lebanon comprise one of the few areas unhampered by lack of dollar exchange, and the proportion of their transit trade (about 50 percent of imports for domestic consumption) may be capable of considerable expansion. In recent years the U. S. has held first place as supplier to this area, the U. K. and France ranking next in order.

From the point of view of foreign traders, Beirut, which is the principal seaport and trading centre of the Lebanese and Syrian republics, is at present probably the most interesting city in the Middle East. It is of special interest to exporters in hard-currency countries because these two republics are practically free from currency and import restrictions, and Beirut's free port facilities contribute to making it one of the important entrepôt centres between East and West.

Syria and Lebanon form a customs union. The total population of the two countries is not more than 4.5 millions, and their combined imports for consumption are accordingly not very great. The following table, giving values of foreign trade for 1939 and the latest two and a half postwar years for which figures are available, indicates the limits to be expected:

Summary of Syrian and Lebanese Trade

	Imports	Exports	Re-exports	Transit Trade
	Thousands of Lebanese £			
1939	75,567	36,517	867	37,686
1946	266,654	85,560	1,127	101,746
1947	362,764	83,640	3,467	182,841
1948 (Jan.-June)	240,056	22,763	504	110,907

Both Syria and the Lebanon, having been under French mandate for more than twenty years following World War I, were until recently, for exchange control purposes, regarded as part of the French-franc area. In February, 1948, the Lebanon entered into a financial agreement with France under which the Lebanese currency continues to be backed by the French franc. Syria refused to conclude such an agreement, and the position of Syrian currency was uncertain until early this year, when the country formally withdrew from the French-franc area. However, France agreed to repay Syria's balances held as currency cover in fourteen semi-annual instalments, and in the meantime Syria is undertaking to provide new cover for its note issue.

Currencies Nominally of Same Value

Lebanese and Syrian pounds are nominally of the same value but, in fact, Syrian currency is usually sold at a discount of approximately 3 percent as compared with Lebanese currency. Both the Syrian and Lebanese Govts. maintain official exchange rates for their currencies which are in accordance with the London cross-rates between sterling and the U. S. dollar. For some years, however, a great proportion of foreign trade (virtually all except government transactions) has been carried on through the black market. Recently this situation received formal recognition by the Lebanese Government when, in Nov., 1948, the free exchange market was legalized and banks were permitted to do business at free market rates. Owing to the customs union, Syria was obliged to follow suit. Both governments possess limited hard-currency resources and, therefore, foreign exchange is issued at official rates for a small list of essential imports and then usually only for government requirements. The official rate for the U. S. dollar in terms of Lebanese pounds is: one United States dollar equals 2.22 Lebanese pounds approximately, and one pound sterling equals 8.86 Lebanese pounds approximately.

The Lebanese regulations, to which Syrian regulations conform closely, require that 10 percent of foreign currency remittances must be sold to the exchange control at the official rate; the remainder may be sold on the free market. The free market varies from day to day, with fairly wide fluctuations over a period of months. For example, in July, 1948, the rate was one U. S. dollar equals 3.50 Lebanese pounds approximately. From November, 1948 to February, 1949 the rate approximated 3.60 Lebanese pounds and by early May had dropped to 3.13 pounds. The free rate for the pound sterling has also fluctuated, but not perhaps so widely as that for the dollar, having averaged around 10 Lebanese pounds for some months past.

Exports Provide Little Exchange

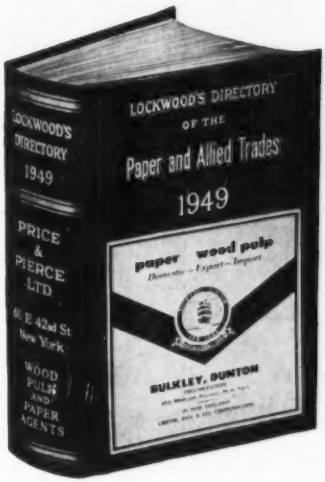
Only a small portion of hard-currency exchange to supply this free market is provided by Lebanese and Syrian exports. It is supplied from invisible earnings such as property investments of Syrians and Lebanese residing abroad and from transit trade and dealings in gold and foreign exchange generally. A large part of the foreign exchange dealings has in the past year apparently consisted of sales of sterling

† Source: Foreign Trade, Foreign Trade Service, Ottawa, Canada.

U. S. IMPORTS
WOODPULP
Preliminary, June, 1949

Item	Country of Origin	Short Tons
Mechanical		
Unbl'chd.	Canada	14,796
	Finland	833
		15,629
Screenings	Canada	401
Chemical		
Sulfite, Unbl'chd.	Canada	17,083
	Sweden	7,084
	Finland	2,853
		27,020
Screenings	Canada	236
Sulfite, Bl'chd.:		
Rayon & Special Chemical Grades.	Canada	11,538
	Sweden	1,197
		12,735
Other	Canada	16,466
	Sweden	1,199
	Norway	168
	Finland	3,118
		20,951
Sulfate, Unbl'chd.	Canada	7,809
	Sweden	2,581
	Finland	3,919
		14,309
Sulfate, Bl'chd.	Canada	31,919
	Sweden	4,716
		36,635
Soda, Unbl'chd. and Bl'chd.	Canada	1,695
Totals, June	Canada	101,943
	Sweden	16,777
	Norway	168
	Finland	10,723
		129,611

1949 EDITION



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at depreciated rates in various markets, including N. Y. In order to protect sterling against these operations, the U. K. treasury on May 13 created a special account to which will be credited the holdings of residents of the Lebanon. The use of these holdings is restricted to countries of the sterling area, and it remains to be seen what effects this action will have on the exchange market of Beirut. Temporarily at least it will make dollars more difficult to acquire; but other means may be found to restore the usual supply of hard currency.

Syria an Agricultural Country

Syria is an important producer of agricultural items, and export surpluses are usually available of wheat, barley, wool, olive oil and tobacco. The Lebanon is mostly mountainous country and supplies of few farm products are available in excess of domestic requirements. For the most part the Lebanon is an importer of foods.

Agricultural development in Syria is likely to proceed rapidly within the next few years. This will apply particularly in the north where there are large areas of uncultivated land capable of being brought into production.

One of the most interesting developments for both countries is the construction of the Trans-Arabian pipeline, which will bring crude oil from the Persian Gulf to the Mediterranean coast at Tripoli and Sidon. This pipeline has already been constructed across Saudi Arabia, but construction of the western end has been held up for many months by failure to come to agreement with the Syrian Gov. It has been reported that agreement has at last been reached. The pipe-line concession from the Syrian Gov. to the Trans-Arabian Pipe-line Company will mean a yearly expenditure by the company in Syria of $30 million. Eighty percent of this sum will be turned over to the Syrian foreign exchange control at the official rate. The pipe-line company will also pay royalties to both Syrian and Lebanese Governments on the amount of oil run through the pipe-line.

Subsistence Level Low

In both these countries, although they provide conditions of prosperity for the upper classes, the subsistence level of the great mass of the population is low. The general cost-of-living index (1939 = 100) had risen by the middle of 1948 to 476. Accentuating the poor living conditions of the majority of the people are the numerous collections of Arab refugees from Palestine to be found dragging out an existence in many parts of both countries.

Of the commodities imported into these two countries, the following should be of interest to Canadian exporters: preserved milk; wheat; flour; canned fish; beer; pharmaceuticals; films; cigarettes; raw colours; paints and varnishes; cosmetics; soap; fertilizer; leather; tires; timber; plywood; newsprint and paper of all kinds; nylon stockings; gold; steel reinforcing rods steel products generally; motor cars and parts; gas and diesel engines; pumps; farm machinery, including tractors; refrigerating equipment; storage batteries; radios.

It is suggested that these two republics, and particularly the city of Beirut, should be given serious consideration by all interested in Canadian export trade. It is, as pointed out previously, a market where dollars are freely available, at a price. It is also, of course, a highly competitive market. As credit terms are an important factor in competition, Canadian firms might well consider some relaxation of the irrevocable-letter-of-credit requirement which is essential in dealing with many parts of the world but which may not be so desirable when it comes to competition under conditions free from import and exchange restrictions.

FINANCIAL RECORD

	Per Share Earnings		Indic.	Aug. 2
	Calendar Year 1948	12 Mo. to Approx. 3/31/49	Annual Divid. Rate	Approx. Market Price
PREFERRED STOCKS				
Armstrong Cork Co. $3.75 Cum.	**$46.33***	**$46.33***	**$3.75**	99¼
Armstrong Cork Co. $4.00 Cum. Conv.	**46.33***	**46.33***	**4.00**	109⅜
Celotex Corp. 5% Cum.	26.42c	15.31i	1.00	16
Champion Paper & Fibre $4.50 Cum.	61.80j	99.97f	4.50	96
Container Corp. of Amer. 4% Cum.	105.41	99.87a	4.00	96½
Crown Zellerbach $4.20 Cum.	59.10c	61.84i	4.20	98½
Crown Zellerbach $4.00 Cum. Conv. 2nd	55.88c*	58.59i*	4.00	94½
Dixie Cup Co. $2.50 Cum. Conv. Cl. A	10.10	10.04a	2.50	48¾
Flintkote Co. $4 Cum.	**83.25**	**74.66**	**4.00**	99¼
Robert Gair Co., Inc. 6% Cum.	17.08	13.73a	1.20	16¼
International Paper Co. $4 Cum.	**263.00**	**265.18**	**4.00**	98⅞
Johns-Manville $3.50 Cum.	209.89	212.03a	3.50	107¾
Kimberly Clark Corp. 4½% Cum.	**80.74**	**77.94**	**4.50**	103¼
Kimberly Clark Corp. 4% Cum. Conv. 2nd	**41.59***	**46.40**	**4.00**	94½
MacAndrews & Forbes 6% Cum.	62.23	60.44	6.00	132½
Mead Corp. 4¼% Cum.	73.46	68.78k	4.25	78¼
Mead Corp. 4% Cum. Conv. 2nd	29.91*	24.30k	2.00	32⅞
Paraffine Cos. Inc. 4% Cum. Conv.	**156.11**	**158.51**	**4.00**	103
Rayonier Inc. $2 Cum.	**16.43**	**15.72**	**2.00**	30½
St. Regis Paper Co. 4.40% 1st A	79.90	51.11a	4.40	78¾
Scott Paper Co. $3.40 Cum.	**59.06**	**66.09**	**3.40**	93⅜
U. S. Gypsum Co. 7% Cum.	**314.45**	**314.18**	**7.00**	181
United Wallpaper Inc. 4% Cum. Conv.	**(d)0.79**	**15.44**	**2.00**	23½
West Virginia Pulp & Paper 4½% Cum.	79.45c	77.54i	4.50	107½
COMMON STOCKS				
APW Products Co.	$0.73	$0.22	(m)	2⅞
American Writing Paper Corp.	**(d)0.15**	**(d)0.15**	**0.25**	5¾
Armstrong Cork Co.	**7.54**	**n.a.**	**3.00**	45¾
Celotex Corp.	**7.21c**	**4.06i**	**1.00**	16
Certain-Teed Prods. Corp.	4.02	3.21a	1.00	11¼
Champion Paper & Fibre	**5.34j**	**8.70f**	**2.00**	23
Congoleum Nairn Co.	**5.78**	**n.a.**	**2.25**	27⅛
Container Corp. of America	10.12	9.52a	4.50	35⅜
Crown Zellerbach	6.70e	6.85i	2.00	25
Dixie Cup Co.	6.70	6.65a	1.00	28¾
Eastern Corp.	**4.76**	**3.10**	**(h)**	8¼
Flintkote Co.	**5.86**	**5.13**	**2.50**	26½
Robert Gair Co., Inc.	2.67	2.10a	0.70	5⅜
Great Northern Paper Co.	**4.63**	**5.12**	**2.80**	36½
International Paper Co.	**16.73**	**16.87**	**5.00**	50⅜
Johns-Manville Corp.	5.22	5.27a	2.00	39
Kimberly Clark Corp.	**5.02**	**4.83**	**1.65**	19¾
MacAndrews & Forbes Co.	3.68	3.56	2.50	33¾
Marathon Corp.	**4.11c**	**3.76i**	**1.40**	22
Mead Corp.	6.36	5.84k	1.00	12⅛
National Container Corp.	**2.28**	**1.80**	**0.40**	5⅞
Paraffine Cos. Inc.	**2.45**	**2.49**	**1.20**	18½
Rayonier, Inc.	**9.09**	**8.64**	**2.00**	24⅝
Ruberoid Co.	11.80	9.48a	3.25	47½
St. Regis Paper Co.	2.71	1.64a	0.60	6⅞
Scott Paper Co.	**4.15**	**4.68**	**2.50**	57¼
Sutherland Paper Co.	6.02	4.92a	2.50	31⅝
Union Bag & Paper Corp.	9.17	6.50a	3.50	22⅛
United Board & Carton	**2.04b**	**(d)0.35i**	**(e)**	5
U. S. Gypsum Co.	**15.04**	**15.03**	**6.00**	99⅜
United Wallpaper	**(d)0.10**	**0.42**	**(n)**	3⅜
West Virginia Pulp & Paper	11.33e	10.93i	4.00	40½

(a) 12 months to approximately 6/30/49
(b) Year ended 11/23/48
(c) Year ended 10/31/48
(d) Deficit
(e) Omitted dividend 2/4/49
(f) 11 months to 3/31/49
(g) 12 months to approximately 1/31/49
(h) Directors took no action on August dividend—last payment 5/2/49
(i) 12 months to approximately 4/30/49
(j) 8 months to 12/31/48
(k) 12 months to approximately June 12, 1949
(m) Directors took no action on July, 1949, dividend—last payment 1/10/49
(n) Last payment 25c, 9/16/47
n.a. Not available
(*) Earnings per combined preferred shares.

Dividends Declared

Robert Gair Co., Inc., on July 26, declared a quarterly dividend of ten cents per share on its common stock in respect of the third quarter of 1949, payable September 10, to holders of record August 19, without the closing of the transfer books. . . . As previously disclosed, the dividend on the preferred stock for the full year has been declared, and the dividend of 30 cents a share in respect of the third quarter of 1949 will be payable September 10 to holders of record August 19, without the closing of the transfer books.

Rolland Paper Co., Ltd., has declared a dividend of $1.06¼ on its preferred stock, payable September 15 to holders of record September 1.

TRAFFIC

BOSTON, Mass. — Paper manufacturers were informed recently that the Interstate Commerce Commission has authorized a 5 percent increase in motor freight rates for New England motor carriers.

Motor carriers in Vermont and New Hampshire were given a temporary 5 percent advance in their freight rates last January. The commission on July 21 made this temporary authority permanent for the companies in those two states, stipulating that the general New England increase now permitted will simply bring the other carriers into line with the Vermont and New Hampshire rate structure.

The authorized increases will apply to shipments between points in New England, and between New England and the New York metropolitan area.

The New England carriers last year requested a 25 percent hike in charges, but later amended this to a request for a 15 percent increase. Their petition was based on higher operating costs.

Cancel NMF Classification No. 9

By Edwin Chester Hastings

The National Motor Freight Classification # 9 will be canceled on August 13th when #10 goes into effect.

The National Classification Board will hold public hearings at 10 a. m. in the following cities:

Atlanta, Ga., 873 Spring St., N.W., Aug. 3, '49
Wash., D. C., 1424 16th St., N.W., Aug. 8, '49
Dallas, Tex., Baker Hotel ..... Aug. 11, '49
Los Angeles, Cal., Biltmore Hotel .. Aug. 15, '49
Portland, Ore., Multnomah Hotel .. Aug. 19, '49
Chicago, Ill., Palmer House ..... Aug. 22, '49
New York, N. Y., Gov. Clinton Hotel Aug. 29, '49

The hearings will consider items from NMFC#10 listed in Special Docket No. 1, a publication of 314 pages.

The rail's committee on classification

Building

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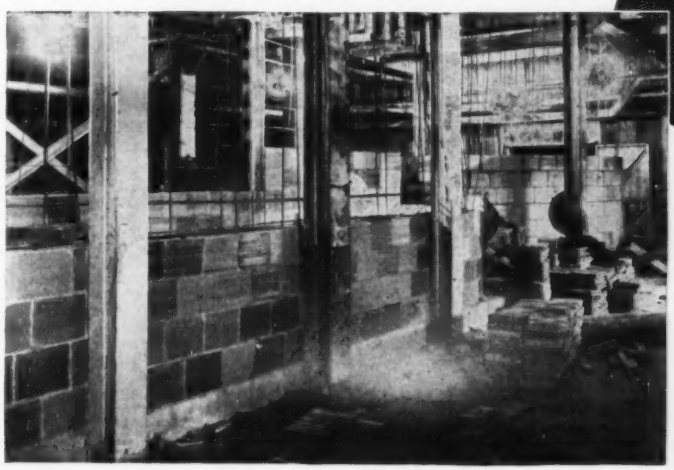
Another Use for **KALAMAZOO GLAZED TILE . . .**

Showing a machine chest—refinery stock chest and a raw stock chest all being built of Kalamazoo Glazed Tile.

Kalamazoo tile is ideally adaptable to all three types of chest due to extreme strength, the easy-to-keep clean surface and low maintenance costs.

A Series of 3 New STOCK CHESTS



KALAMAZOO TANK & SILO CO.
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—which resulted from an ECC order to the rail carriers for preparation of a Uniform Classification—issued four dockets containing items from the Consolidated Freight Classification #18. In each docket were listed with the items, the present ratings and weights. For consideration in open hearings also were listed the proposed changes and various new items for insertion in the classification. It is foreseen that it will be come months before the new rail classification tariff is published.

Motor carriers are not going to wait for an order from the ICC that they also must have the uniform classification. They prefer to do it voluntarily, and have issued the special docket with a final goal the motor carriers' Uniform Classification. Realizing that competitive differences will arise with the rail's Uniform Classification, they cite as reasons for publication of the docket: that all interested may be informed and take action essential to the protection of their particular interests.

The competitor's tariff will reflect the ICC's order requiring territory uniformity in ratings, and the truckers believe this a desirable objective with respect to Motor Freight Classification.

Combined into the motor docket are the series of proposals for changes that are now under consideration by the rail's Special Committee on Uniform Classification. The motor docket in general reflects all the changes carried in the four dockets issued by the rail's committee.

Public hearings will be for the purpose of obtaining factual information upon which the individual proposed changes can be accorded disposition under recognized classification principles. The National Board will dispose of the proposals in accordance with the existing Rules of Procedure, and may make, refuse to make, or deviate from proposed changes after due consideration of all factors involved including descriptions, ratings, minimum weights and packing requirements, in addition to the specific proposal.

The National Classification Board desires all possible facts and data that would be useful in reaching its conclusions. Prepared statements (in duplicate) setting forth densities (weight per cu. ft.), values (per lb.), packaging, loadability, hazards, and other facts reflecting transportation characteristics, will be welcomed, and may be submitted either at one of the hearings or directly by mail to: National Classification Board, Joseph C. Colquitt, chairman, 1424 Sixteenth Street, Washington, (6) D.C. The data is desired before the hearings and, if not possible due to limited time for preparation, not later than Sept. 10, 1949. The submitted statements will be made part of the record and accorded full consideration.

Regarding the public hearings, no appointments will be made in advance. The National Board does desire those intending to appear, will give advance notice of the item in which they are interested approximate time required for review. Organizing of groups interested in a particular item or group of items with designation of a spokesman will be helpful, the Board suggests.

Special Docket No. 1

In the following, attention is directed to the fact that only items with *increases* in the rating, weight or other changes are listed.

Item 098, advertising displays, itinerant, consisting of portable material used in furnishing and equipping display windows for temporary merchandise displays.

Increase in Present LTL rating from Class 1 (100%) to Proposed 125% of the first class rate.

Item 7870, Paper bags, garment storage or mothproof, may have cellulose film inserts, outside exposed area not exceeding 1% of total outside area of bag.

Increase in present TL rating from 37½% to proposed 40%.

Item 7900, Paper bags, insulated with macerated paper.

Increase as above.

Item 7920, Paper bags, not otherwise indexed.

Increase in LTL present rating in the South from Class 5 (45%) to proposed 65%.

Item 7910, Paper bags, with cut-out and paper or pulpboard reinforced handles or grips.

Increase in truckload weight from present 24,000 pounds to proposed 36,000 pounds.

Item 8040, Woven paper farbic bags.

Increase in present truckload rating of: East, Class 37½ (37½%); South, Class 7 (30-32½%); West, Class 5 (30-37½%) to proposed 40%.

Baseball umpires, like Mill Superintendents, make close decisions. BE SAFE — decide on The DRAPER FELT.

The DRAPER Felt

DRAPER BROTHERS COMPANY

Woolen Manufacturers Since 1856

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Item 8870, Paper baskets, berry fruit or vegetable till basket or, till boxes. SU (set up), nested.

Increase in present LTL rating of Class 2 (85%) to proposed 100%.

Items 12830 and 12850, Boxes or crates, including fibreboard, paper or pulpboard. Fibreboard, without wooden frames (paper boxes), corrugated or other than corrugated, bodies folded flat and bottoms and tops SU.

Increase in LTL rating from present Class 1 (100%) to proposed 125%. Increase in TL rating from present Class 3 (70%) in the South to proposed 85%.

Corrugated, flat, KD flat or folded flat. Other than corrugated, with or without necessary equipment.

Increase in present South LTL rating Class 4 (50%) to proposed 70%, proposed increase on "other than corrugated" 65%.

Item 13410, Cans or bottles, fibreboard, paper or pulpboard, with or without metal tops or bottoms, KD, ends detached, bodies folded flat.

Increase in present LTL rating Class 3 (70%) to proposed 85%.

Item 19360, Paper or pulpboard, other than disc, NOI, caps, covers or tops, other than display, for bottles, cans, glasses or jars, or can bottoms, not nested.

Increase in present truckload rating Class 3 (70%) to proposed 85%. Same item "nested" increase in TL weight from present 12,000 pounds to 24,000 pounds.

Item 19370, Fiberboard, plastic treated, screw type.

Increase in present LTL rating Class 2 (85%) to proposed 100%.

Item 19410 (New item), pulpboard milk bottle caps.

Not nested or flat—Present LTL rating Class 2 (85%), proposed same. Truckload weight, present 20,000, proposed increased to 24,000 pounds. Present TL rating Class 4 (50%) proposed increase to 55%.

Item 19430, paper and tin ring, also Item 19446, paper or pulpboard, not nested nor flat, snap on type.

Increase in present LTL rating Class 2 (85%) to proposed 100%.

Increase in present TL rating Class 4 (50%) to proposed 55%.

Item 20050, Paper winding cores, iron or steel without flanges, bare or wound with paper to not exceeding ½ inch thick.

Increase in present LTL rating in South Class 6 (40%) to proposed 50%.

Increase in TL minimum weight from present 24,000 pounds to proposed 40,000 pounds.

Item 20060, Cores or rollers, winding, wooden, including bamboo.

Increase in present ratings in South and West, Class 4 (50%) to proposed 70%.

Items 20630, 20635, 20740, 20760, Cellulose, NOI, including woodpulp cellulose, present truckload weight 20,000 and rating Class 4 (50%).

The proposal is to separate as follows:

Cellulose, NOI, TL weight reduced to 16,000 pounds, rating increased to 70%.

Cellulose, woodpulp, NOI, in bales not machine pressed, rating and weight as above.

In machine pressed bales, LTL 55%, Weight 36,000 pounds TL, rating 32½%.

Item 20740, Cellulose film, printed or not printed (transparent sheets of not nitrated cellulose film such as commonly used for wrapping purposes).

Increase in present LTL rating Class 3 (70%) to proposed 85%.

Item 20760, Cellulose wadding, NOI, in packages compressed to 15 lbs. per cubic foot or more.

Increase in present LTL rating Class 3 (70%) to proposed 77½%. In packages not machine pressed or in packages compressed to less than 15 lbs. per cubic foot.

Increase in present LTL rating Class 1 (100%) to proposed 125%.

Item 20790, Container cement, liquid or paste, in containers, in bulk.

Increase in truckload weight, present 30,000 pounds to proposed 36,000.

Item 21300, Paper baggage or parcel checks.

Increase in present rating TL in the East from Class 40 (40%) to proposed 50%.

Chemicals

Items 21620 and 21630

Sulphate, or paper makers' alum. The present rating is 50% and it is proposed to increase the rating to 60%.

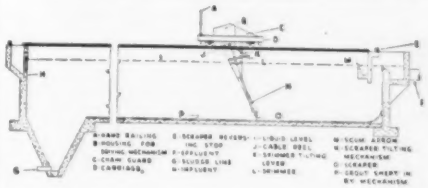
Item 21700, Chloride (muriate of ammonia or sal-ammoniac), in cloth or 5-ply paper bags, or in bulk, in barrels or boxes.

Increase from present ratings in the East, Class F (55%); South and West, Class 4 (50%) to proposed 65%.

Increase in weight from 36,000 to 40,000 pounds for truckloads. Chloride also listed in Item 22030 with ratings of 50% and proposed to increase to 60%.

Item 22100, Sulphate, crude, barytes, ground, not precipitated.

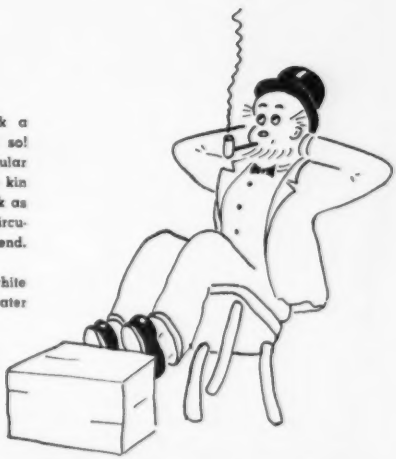
Increase in present LTL ratings in the East and West, Class 4



"No space for a clarifier?"

"Shure, now, most people think a clarifier has to be round. T'aint so! Ye take the Hardinge Rectangular Clarifier, for instance. Shure, 'n ye kin fit it into a long, narrow space slick as a whistle! Just as efficient as a circular tank 'n delivers sludge at one end.

"Nuthin' like it fer treatin' 'white water' fer re-use, 'r paper plant water supply. If ye got limited space jist write Hardinge fer Bulletin 35-C-14."



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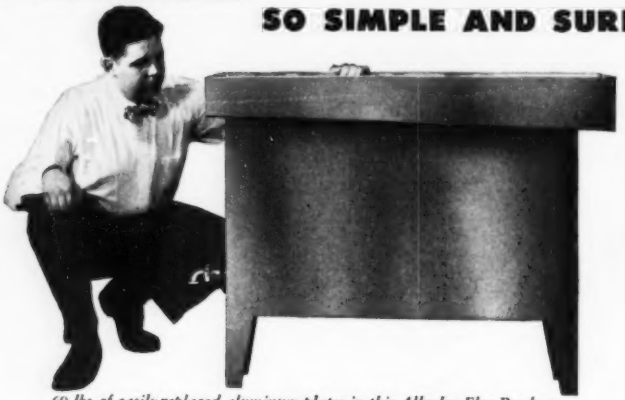

69 lbs. of easily replaced aluminum plates in this Alhydro Floc Producer will treat approximately as much water as ¾ ton of coagulants . . .

Since the Alhydro unit employs the principle of low voltage d.c., electrolytic dissolution of aluminum plates in water to produce aluminum hydroxide floc, it completely eliminates the conventional problems of shipping, handling and storing bulky chemicals. Moreover, there is seldom any need for chemical feeders—production of Alhydro floc is controlled with a simple turn of a dial.

Tests conducted under wide variation of conditions have proved that the Alhydro Floc Producer assures efficient coagulation over a wide range of water temperatures, clarity and pH, and in most instances completely eliminates the necessity for corrective chemicals.

One Alhydro unit treats approximately 300,000 gals. per day . . . multiple unit installations are used for larger requirements.

"We are enlarging our present plant and will include 8 Alhydro units instead of the 5 we now have. Here are a few reasons:

1. Less storage space required for chemicals
2. Cost is practically the same as chemical coagulants
3. Minimum of attention by only one operator. To increase the floc volume, the operator simply increases the amperage by turning a dial
4. Floc forms rapidly and does not change pH of water so we are able to produce a stabilized water with this method."

• Clifford Fore, District Manager

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GET THE FULL DETAILS

Read this folder which illustrates and describes the features and advantages of the Alhydro Floc Producer in treating drinking water or water for industrial use. Write for your free copy today.

ALHYDRO, INC. DEPARTMENT EC 516 N. CHARLES ST., BALTIMORE 1, MD.

(50%) in the South, Class 5 (45%), proposed to 55%.

Increase in truckload weight from 40,000 to proposed 80,000 pounds.

Item 22120, Sulphate, precipitated (blanc fixe).

Increase in present LTL ratings (as above) to proposed 60%.

Item 22130, Sulphide, in bulk.

Increase in LTL, present rating 50% to proposed 55%.

Item 22190, Borax, sodium borate.

Increase in LTL ratings in the East, Class F (55%); South and West, Class 4 (50%) to proposed 60%.

Item 22300, Calcium, acetate, dry in bags.

Increase as above.

Item 22310, Bisulphite.

Same present ratings as above, proposed increase to 85%.

Item 22330, Calcium or lime salts.

Increase in LTL rating, present Class 1 (100%) to proposed 200%.

Item 22390, Chloride, other than liquid. Item 22490, Sulphide, bags and bulk.

Increase in LTL rating, present 50% to proposed 55%.

Item 53520, Asbestos felt paper. In solid flat blocks.

Increase in LTL rating, present Class 3 (70%), proposed 85% same item in forms or shapes, present rating Class 2 (85%), proposed 100%.

Item 53490, Ground waste paper, chemically treated or shredded wood and mineral combined, batts with or without paper backing or wrapping.

Increase in truckload rating, present 37½%, proposed 45%.

Item 53530, Insulating material, NOI.

Increase in TL rating, present Class 3 (70%) for 12,000 pounds, proposed 77½%.

Item 53545 (new item), Insulating paper consisting of two or more sheets held together by a waterproofing compound reinforced between the sheets with strands of fiber and backed or faced with aluminum pigment coated paper, in wrapped rolls. Proposed ratings LTL 85%, TL weight 40,000 pounds, rating 37½%.

Item 53600, Sound deadening material, felt paper saturated or not saturated.

Increase in present LTL rating of 50% in South and West to proposed 55%; also truckload weight increase from 36,000 to proposed 40,000 pounds.

Item 53550, Laminated wood fiber, sheeted, NOI, machine pressed in bales, boxes or rolls.

Present LTL rating, Class 2 (85%), proposed to be increased to 100%; present TL rating 37½%, proposed to be increased to 45%.

Item 53620, Vegetable fiber felt, NOI, quilted, in packages. Present LTL rating Class 1½ (150%), proposed to be increased to 300%.

Item 52605, Wood chips (new item).

Proposed LTL rating 50%; TL rating 27½%, min. wgt. 36,000 pounds.

Item 63810, Paper makers' felts, other than obl, used. Present LTL rating, Class 2 (85%), proposed to be increased to 92½%; present TL ratings, Class F (55%) in the East; Class 4 (50%) in the South and West—proposed to be increased to 60%.

Item 63840, Paper mill heater bed plates. Same as above.

Item 63880, Paper mill cylinder molds, damaged or worn out.

Present LTL rating 70%, proposed 77½%.

Item 63890, Paper mill roller bars, iron or steel.

Present LTL ratings 50%, proposed 65%.

Item 63910, Paper mill screen plates, chrome nickel steel.

Present LTL rating Class 2 (85%), proposed 100%.

Present TL ratings, 50/55%, proposed 65%.

Item 75240, Autographic register, cash register, computing machine, plain, printed or ruled.

Increase, present TL rating 30/37½%, proposed 40%.

Item 75250, Blotting; cover; document manila; drawing; matrix; printing (other than newsprint or carbonize print); stereotype; writing.

Increase, present LTL ratings in South and West, Class 4 (50%), proposed 65%.

Item 75310, Carbon, NOI.

Less than 30c (value) per pound —present LTL rating Class 3 (70%), proposed to be 77½%.

Value over 30c per pound—present LTL rating Class 1 (100%), proposed to be 110%.

Item 75350, Cigarette, uncut.

Present TL rating 37½%, proposed to be increased to 40%.

Item 75490, Ground wood paper, other than newsprint and unfinished blank wall paper.

Present ratings LTL—Class F (55%) in the East; Class 4 (50%) in the South and West. Proposed to be increased to 65%.

Truckload weight on rolls over 16 inches in diameter, or sheets over 336 square inches—present 36,000 pounds, proposed 40,000.

Item 75550, Newsprint.

Present ratings LTL—45 to 55%, proposed 65%.

Item 75600, Dusting or polishing, also Item 75610, Paper, NOI, not printed.

Present ratings LTL, Class 3 (70%), proposed 85%.

Present ratings TL, in South and West, 30 to 37½%, proposed 50%.

Item 75680, Pulpboard or fiberboard, not corrugated nor indented.

Present LTL ratings—in the East, Class F (55%); in the South and West, Class 4 (50%). Proposed to be increased to 65%.

Item 75690, Resin impregnated, not laminated, NOI.

Present LTL rating Class 3 (70%), proposed to be increased to 85%.

Present TL ratings in the South and West, 30 to 37½%, proposed 50%.

Item 75720, Shelf decorating.

Present LTL rating Class 2 (85%), proposed to be increased to 100%.

Present TL rating Class 4 (50%) weight 30,000 pounds, proposed to be increased to 70% with reduction in weight to 20,000 pounds.

Item 75750, Toilet paper, toilet seat covers, napkin paper, paper toweling or paper towels.

Present LTL ratings in the South, 37½ to 50%, proposed to be increased to 70%.

Item 75770, Vegetable parchment, including vegetable parchment wrapping paper, in the South are rated LTL Class 4 (50%).

The proposal is as follows: Vegetable parchment increased to 85%; vegetable parchment wrapping paper increased to 70%.

Item 75780, Wall, NOI, or wall paper samples or sample books.

Present LTL rating is Class 3 (70%), proposed 77½%.

Present TL ratings in East and South, 40%, proposed 45%.

Item 75790, Blank wall paper, unfinished, other than oatmeal or ingrain wall paper, fiber content consisting of not less than 60% ground wood, 70 lbs. rolls.

Increase in LTL rating, present—Class F (55%) in the East; Class 4 (50%) in the South and West. Proposed—65%.

Item 75840, Wrappers, NOI, other than gov. stamped, printed, edges gummed or not gummed, or made of one piece of flat paper, not printed, edges gummed.

Increase in present LTL East and South rating Class 4 (50%), to proposed 65%.

Item 75900, Wrapping, NOI, printed or not printed or imprinted. Oiled or waxed, other than oiled or waxed.

Present ratings LTL as above on waxed and increase the same.

Item 75930, Paper, coated with sand or gravel.

Present LTL ratings—East, Class F (55%); South and West, Class 4 (50%); proposed to be increased to 70%.

Item 75980, Fiberboard waste baskets.

The present TL rating on the item shipped SU, not nested is, Class F (55%) in the East; Class 4 (50%) in the South and West, min. wgt., 18,000 pounds. It is proposed min. wgt. 16,000 pounds and the rating increased to 70%.

Same item shipped folded flat—LTL rating Class 3 (70%) and proposed to be increased to 77½%. Truckload rating now 45% in the South and West, proposed to be increased to 50%.

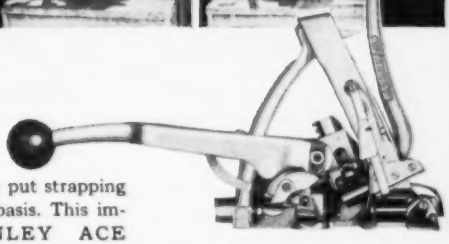
Item 76050, Bottle carrying cartons.

LTL rating in South now 50%, proposed to be increased to 70%.

Item 76220, Confetti or serpentines.

LTL rating Class 2 (85%), proposed to be increased to 100%; TL rating Class 4 (50%), proposed to be increased to 70%.

4 STEPS
5 SECONDS
with the Improved
STANLEY ACE
STRAPPING TOOL



● Here's how to put strapping on a production basis. This improved STANLEY ACE STRAPPING TOOL is light — fast — simple — even a beginner can make time with it. Magazine holds 75-100 seals — is easily loaded and seals in any position. The "Ace" is made in three different sizes, to handle ⅜", ½" and ⅝" strapping.

Decide now to put the "Ace" to work for you! Write for full information or ask for demonstration.

STANLEY
Reg. U.S. Pat. Off.
HARDWARE · HAND TOOLS
ELECTRIC TOOLS

SEND FOR BOOKLET

The Stanley Works, Steel Strapping Division
202 Lake Street, New Britain, Conn.

Gentlemen: Please send me free folder on the Improved ACE Strapping Tool.

Name .....
Title .....
Company .....
Address .....
City ..... State .....

OBITUARIES . . . .

R. J. Lovell, president of the R. J. Lovell Co., Ltd., Toronto, Que., died in that city on July 27 following a protracted illness. Mr. Lovell's wife died several years ago. Surviving him are a sister, Mrs. W. F. Hull, and one son, R. L. Lovell, who will continue the business.

Edward J. Burnell, 59, vice-president, general sales mgr. and director, Link-Belt Co., Chicago, died at his home in Winnetka, Ill., Friday, July 22, following an illness of several months. He is survived by his widow, a son and a daughter.

Harold C. Harvey, 58, president of Harvey Paper Products Co., Sturgis, Mich., died in Grand Rapids, July 17. Mr. Harvey's health had been failing for several years. His widow, Mary, survives.

William G. Smith, 80, foreman, J. R. Booth Co. Ltd., for 60 years, died at his home in Ottawa on July 24. Surviving are his widow, two sons and six daughters.

Mark A. Thomas, 84, for many years head of Wardlow-Thomas Paper Co., Middletown, Ohio, which was founded by his father.

H. F. Edmund Kent, 73, at Toronto, Canada, past president of Canadian Paper Makers Assn.

AMERICAN PAPER AND PULP ASSOCIATION'S PRODUCTION RATIO REPORT*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks—1949		Corresponding Weeks—1948	
June 18	78.8	June 19	95.0
June 25	83.9	June 26	99.8
July 2	79.7	July 3	91.3
July 9	44.7	July 10	62.3
July 16 (Revised)	76.3	July 17	87.1
July 23	82.9	July 24	103.1

COMPARATIVE MONTHLY SUMMARIES

1948						1949	
Jan.	100.1	May	100.5	Oct.	99.1	Jan.	94.6
Feb.	99.8	June	95.7	Nov.	97.1	Feb.	92.8
Mar.	100.8	July	85.3	Dec.	87.1	Mar.	89.1
Apr.	100.8	Aug.	96.8			Apr.	85.1
		Sept.	91.8	Year Avg.	96.2	May	82.7
						June	80.9

COMPARATIVE YEARLY SUMMARIES

	1942	1943	1944	1945	1946	1947	1948	1949
Year to Date	95.2	87.8	87.4	87.9	99.3	103.6	97.9	85.5
Year Average	90.4	87.8	88.1	89.4	101.1	104.3	96.2	

PAPERBOARD OPERATING RATIOS†

Current Weeks—1949		Corresponding Weeks—1948	
June 18	78	June 19	97
June 25	80	June 26	97
July 2	75	July 3	89
July 9	35	July 10	56
July 16	64	July 17	84
July 23	76	July 24	91

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1948	99	100	102	102	100	94	81	92	91	96	94	84	95
1949	88	85	79	79	78	75							

* All of the above data is based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Association.

THE HEART OF A WEB PRESS IS IN ITS CONTROLS—

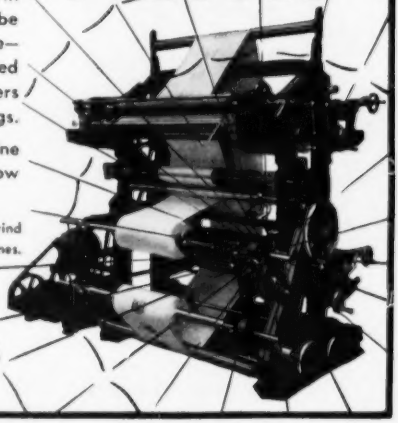
Cut down your 'DOWN TIME' with

POTDEVIN ANILINE PRESSES

There's no profit in idle presses. Logical controls accessibly arranged make Potdevin presses quick to set up, easy to change over. Plate cylinder, transfer roller and fountain roller are adjusted in sequence. Later adjustments do not affect those already made. Beside independent controls for each roller, on Potdevin presses the entire printing mechanism for each color can be moved as a unit. Registration—both lengthwise and sidewise—is individually controlled for each color and can be adjusted while the press is running. "Throw off" levers take the rollers out of operating position without disturbing control settings.

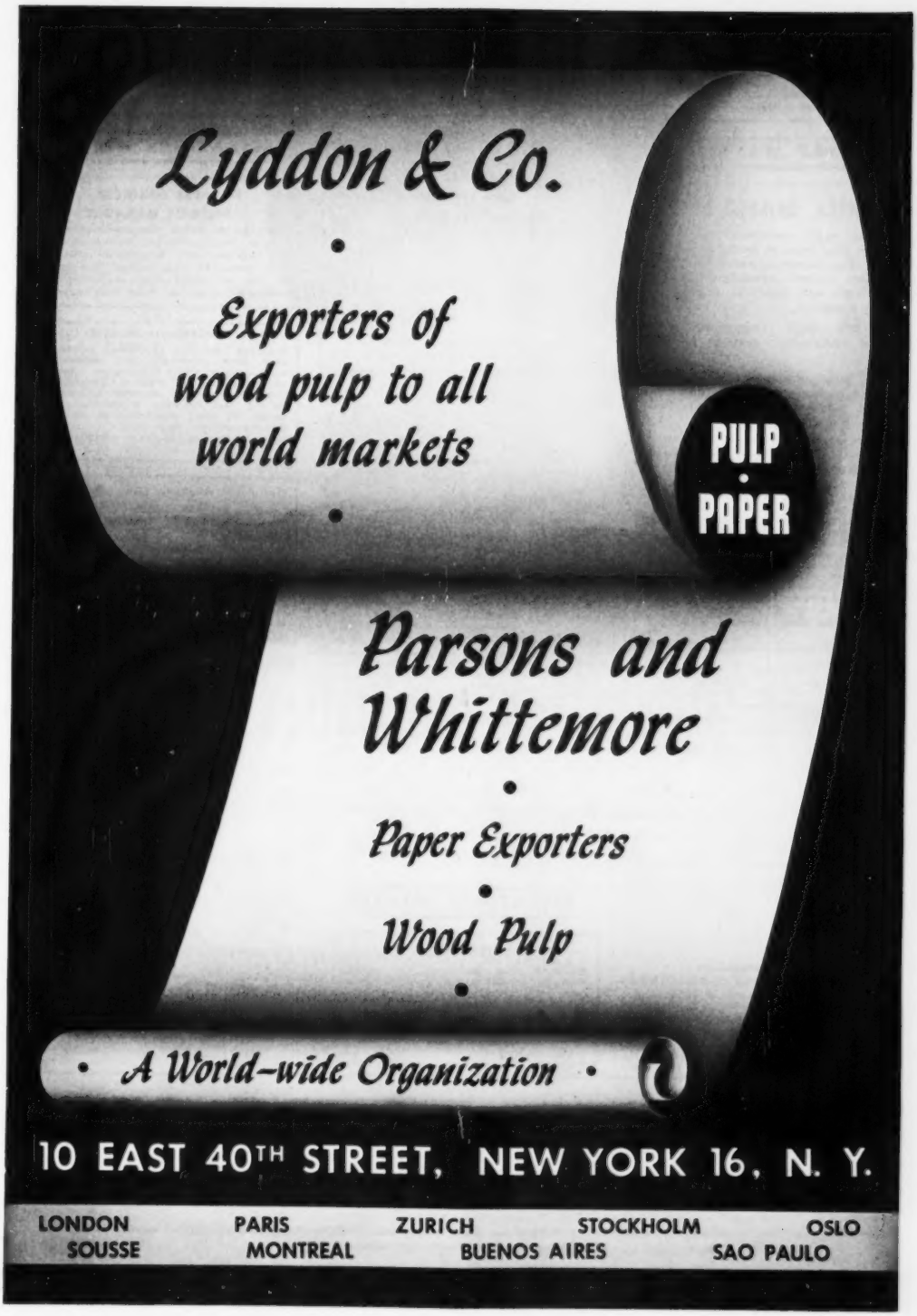
These time saving features are available on all Potdevin aniline presses including the 10", 2 color press for converting narrow stock into gum tape, spoon wraps, match book covers.

3 color press (4 color frame design) with power driven unwind and rewind. Similar models for direct attachment to bag machines.



POTDEVIN MACHINE CO.

1223 — 38th Street, Brooklyn 18, New York


Lyddon & Co.
Exporters of wood pulp to all world markets
PULP
PAPER
Parsons and Whittemore
Paper Exporters
Wood Pulp
A World-wide Organization
10 EAST 40TH STREET, NEW YORK 16, N. Y.
LONDON PARIS ZURICH STOCKHOLM OSLO
SOUSSE MONTREAL BUENOS AIRES SAO PAULO

CLEARING HOUSE

HELP WANTED

MILL MANAGER

Eastern mill manufacturing folding grades has unusual position available for a man possessing exceptional qualifications. Good education, practical experience and ability to organize are major requisites.

Unusually high compensation and future opportunity assured the right man.

Write fully outlining age, experience, previous connections and salary expected. Address Box 49-379 care Paper Trade Journal. A-18

SALARIED POSITIONS $3,500—$35,000

If you are considering a new connection communicate with the undersigned. We offer the original personal employment service (39 years recognized standing and reputation). The procedure, of highest ethical standards, is individualized to your personal requirements and develops overtures without initiative on your part. Your identity covered and present position protected. Send only name and address for details.

R. W. BIXBY, INC.
117 Dun Bldg., Buffalo 2, N. Y.
TF

WANTED—Young man experienced in manufacture and sales vulcanized fibre. Address Box 49-341 care Paper Trade Journal. TF

MACHINE TENDERS, BACK TENDERS, BEATER ENGINEERS—Good steady jobs for experienced, hard working, sober men. References necessary. Miami Paper Board Mills, Inc., P. O. Box 66, Miami Springs, Fla. A-4

TOUR BOSS—One machine Folding Board Mill offers good pay, steady job, excellent future. Must be thoroughly experienced, have plenty of drive and initiative. Outline full qualifications and where employed. Address Box 49-366 care Paper Trade Journal. A-4

WORKING SUPERINTENDENT — Small Folding Board Mill desires industrious man who is cost and quality conscious, not afraid of hard work and who can also serve as Master Mechanic. Wonderful opportunity with growing organization. Give all past and present employers and references. Address Box 49-367 care Paper Trade Journal. A-4

MAINTENANCE SUPERVISOR WANTED —35 to 45 years of age with machine shop and mill experience, for industrial plant outside of Chicago. Must be well experienced and must have ambition and supervisory ability. Please give experience, education, age and expected salary. Address Box 49-365 care Paper Trade Journal. A-18

HELP WANTED

MEN WANTED
Positions Open

Mill manager Cylinder board mill; chief chemist facial tissue mill; chief electrical engineer; stationery salesman acquainted with department stores and stationers in New England; tour boss; machine tenders and back tenders. Plant Engineer, preferably with technical education and 5 to 10 years plant engineering experience. Starting salary, $500-$600 a month.

We invite correspondence (confidential) with mills seeking executives and with executives seeking new positions.

CHARLES P. RAYMOND SERVICE, Inc.
294 Washington Street, Boston, Mass. A-4

OPERATOR SUPERVISOR WANTED — Thoroughly experienced in paper napkin machines, box sealing machines, box glueing, cellophane wrapping machines. Steady position and excellent opportunity. Address Box 49-363 care Paper Trade Journal. A-11

GOOD WORKING MILLWRIGHT to take charge of small cylinder Tissue Mill in New York State. In replying advise experiences and salary expected. Address Box 49-375 care Paper Trade Journal. A-4

PAPER SALESMAN—Old established manufacturer of Fancy Papers has opening in New York and New Jersey area for men experienced in this line. Excellent opportunity for right person. Salary and commission. Write stating experience. Address Box 49-374 care Paper Trade Journal. A-4

SMALL PAPER ROLLS—Long established, fully equipped Paper Converter desires man capable of managing details of Slitting Department. Excellent opening for men qualified for developing good opportunity. Send details in full confidence. Address Box 49-373 care Paper Trade Journal. A-4

WANTED—BEATER ENGINEERS, Back Tenders and Cutter Boys. Must be experienced, not afraid of hard work. Sober men. Steady job. Address Box 49-371 care Paper Trade Journal. A-4

WANTED—PAPER MILL MASTER MECHANIC to take charge of one 72" 6 cylinder machine. One who understands the business and produces results. Steady job. Address Box 49-372 care Paper Trade Journal. A-4

SITUATIONS WANTED

ENGINEER

Available after September first, graduate engineer, over fifteen years experience in pulp, paper and insulation board mill design and operation. Now engaged in consultation study for foreign mill. Desires permanent connection of executive assistant or junior executive nature. Box 49-359 care Paper Trade Journal. A-18

SITUATIONS WANTED

SALES ENGINEER
DISTRICT MANAGER

Tappi Member. Twenty years experience contacting mills of New England and Northern New York. Well acquainted with production procedure, especially Sizing, Finishing, Coating. Now employed but wish to improve position and responsibilities. **Address Box 49-380, care Paper Trade Journal A-11**

OPPORTUNITY WANTED

Seasoned executive possessing mature balance, keen perspective and inherent tact seeks position where competence, trust, and unusual ability are required. Technical and practical knowledge of paper making, converting and specialty treatments accrued during 20 years experience in production, research and technical sales.
Address Box 49-333 Paper Trade Journal A-4

FINE PAPER MILL EXECUTIVE with over twenty-five years experience in Sales, Administration and Management invites correspondence with any principal seeking the services of an able executive with these qualifications.

Experience covers the manufacture and sale of Rag and Sulphite specialty papers used by the Graphic Arts Industry and special applications in the industrial field. Address Box 49-346, care Paper Trade Journal. A-4

EXECUTIVE—Board and paper conversion mill experience, excellent production and labor relations history, currently plant manager. Seeks opportunity. Address Box 49-239 care Paper Trade Journal. A-25

AVAILABLE—Manager or Sales Manager for coarse paper jobber. Twenty years experience in buying, selling and sales promotion. Thoroughly versed in all types of twines, coarse paper, specialties and most fine papers. Extremely capable and hard working. Will locate anywhere. Address Box 49-338 care Paper Trade Journal. A-4

YOUNG, AMBITIOUS, technically trained and sales personality. Nine years experience in paperboard, packaging, pulping, various papers as chief chemist; technical advisor. Desires connection with present responsibility and future. Address Box 49-351 care Paper Trade Journal. A-4

CHIEF ENGINEER-CHIEF ELECTRICIAN or in charge of steam, electrical and pipe fitting work. Address Box 49-364 care Paper Trade Journal. A-11

BACK TENDER seeks position. 15 years experience. Best of references. New England States preferred. Address Box 49-370 care Paper Trade Journal. A-11

RATES FOR CLASSIFIED ADVERTISING

HELP WANTED—10c a word. Double rate for heavy face type. Minimum charge $2.50.

SITUATIONS WANTED—10c a word, double rate for heavy face type. Minimum charge $2.50. If repeated ½ rate will be charged for each consecutive repetition.

FOR SALE—10c a word. Double rate for heavy face type. Minimum charge $2.50.

WANTED—10c a word. Double rate for heavy face type. Minimum charge $2.50.

OPPORTUNITIES—10c a word. Double rate for heavy face type. Minimum charge $2.50.

Classified advertising space may also be purchased at $5.00 per single column inch. All classified advertisements are payable in advance. If box number is used—70 cents additional.

Address replies to advertisements appearing under Box Numbers in care of PAPER TRADE JOURNAL, 15 West 47th Street, New York 18, N. Y.

When Buffalo Bill Was Shootin' Bison

About the time Buffalo Bill was scoutin' for the army and shootin' buffalo, The Black-Clawson Company was formed. The exact date was 1873.

Over the years, to the credit of their engineers and the engineers of their Shartle and Dilts Divisions, stand many notable contributions to papermaking techniques:

- FIRST CYLINDER MACHINES IN EXCESS OF 100" TRIM.
- FIRST TO BUILD VERTICAL DRYERS.
- FIRST SHOP-ASSEMBLED SHELL FILLING.
- FIRST SPECIALIZED JORDANS.
- FIRST DOUBLE-STRENGTH JORDAN PLUG.
- HYDRAPULPERS AND ACCESSORIES—JUNK REMOVER AND RAGGER.
- EFFECTIVE STOCK-CLEANING SYSTEMS.
- HYDRAFINER LINE.
- EFFICIENT WAXER AND WATER FINISHER, ETC.

KOHLER SYSTEM EQUIPMENT
•
PRODUCT OF DILTS

Engineers available for consultation and to compile estimates on new mill projects or the improvement of mills now operating.

"Everything for the Paper Mill"

THE BLACK-CLAWSON COMPANY

HAMILTON, OHIO

Divisions: SHARTLE BROS. MACHINE CO., MIDDLETOWN, OHIO
DILTS MACHINE WORKS, FULTON, NEW YORK
Western Sales Office: Mayer Bldg., Portland, Oregon
Associate: Alexander Fleck Limited, Ottawa, Canada
Subsidiary: B-C International, Ltd., 16 Catherine Place, Victoria, London S. W. 1, England

FOR SALE

BALER
1—1000 lb. Economy with motor

BEATERS
2—64 x 54 Jones iron tub, stainless steel bars
2—76 x 55 Rabus, bronze filled rolls
2—85 x 57 Jones iron tub, perforated backfall

SUPER CALENDERS
100"—82"—74"—60"

SHEET CUTTERS
1—130" Horne duplex
1—New 104" Hamblet duplex with layboy and unwind stand
1—94" Clark with layboy
1—92" Dillon duplex with folder
1—84" Hamblet duplex, heavy, Model 28, duplex layboy
1—70" Clark
1—64" Hamblet

REAM CUTTERS
1—56" Smith and Winchester
1—50" Oswego
1—48" Acme

DRYERS
1—12 ft. x 186" Yankee
1—12 ft. x 132" Yankee
2—8 ft. x 174" Yankee
5—60" x 174"
3—48 x 126"
3—48 x 118"
4—40 x 120"
1—42 x 126"
34—36 x 80"
21—36 x 76"
2—42 x 73"
2—60 x 73"
16—36 x 62"
15—48 x 46"
4—54 x 48"
7—38 x 38"

EMBOSSERS
48" Dornbusch
30" Waldron
26" Textile, three sets rolls

MOULDS
2—42 x 121"
8—36 x 126"
7—38 x 102"
2—42 x 92"
2—36 x 92"
1—60 x 84"
1—48 x 84"
4—30 x 78"
2—36 x 46# Do-Inker with wash, etc., rubber equip

JORDAN
1—32 Appleton
1—New Mammoth Jr.
1—New Pony

FRANK H. DAVIS CO. 175 Richdale Ave., Cambridge, Mass. TF

FOR SALE or RENT

Paper Mill with 3 Fourdrinier Machines, complete with auxiliary equipment. Designed for 60 tons of Specialties, News, Book, Toweling, Kraft, etc. Can be put in operation immediately. Covers 80,000 Sq. Ft., Buildings fully sprinklered, Railroad Sidings, excellent water, 1800 H. P. stoker-fired water tube Boilers installed 1936. Excellent labor conditions. All located within radius 100 miles New York City, Baltimore, Washington. Immediate possession. Attractive proposition!
Address Box 49-300, care Paper Trade Journal. TF

CHESTNUT WET LAP FOR SALE

8 Air Dry Tons per day of pure chestnut wet lap 60% air-dry. Available for immediate shipment. Write for details and sample.

CHAS. A. SCHIEREN COMPANY
Bristol, Virginia A-4

FOR SALE OR LEASE

Small paper mill with cylinder machine. Situated advantageously to sources of raw material and sales outlet. Ample room for converting plant in same building. Terms. Address Box 49-357, care Paper Trade Journal. TF

FOR SALE

Two Heavy Duty 72" #10 Model 5 Camachine Slitter Rewinders.

Complete with new style crush cut slitting units and water-cooled mill roll brakes. All in perfect condition ready for use.

Extra slitting units available.

Box No. 49-378 care Paper Trade Journal
A-25

GOOD VALUES—NEW & USED

34" Beck Sheeter, one year old.
58" and 78" Hamblet Sheeters.
34" Camachine No. 6 Slitter.
32" Hobbs and 34" Inman shear cut Slitters —very cheap.
39" Chandler & Price Automatic Power Paper Cutter.
New 44" National Auto. Power Cutters and 36" National Hydraulics.
Baling Presses—both hand and power.
Brackett 3-knife Trimmer.
28 x 41 Thomson Cutter & Creaser.

THOMAS W. HALL COMPANY, Inc.
120 West 42nd St., New York 18
(Plant at Stamford, Conn.) TF

FOR SALE

Will Sacrifice

1—9" x 12" American Ball Horizontal Twin Slow Speed Automatic Steam Engine with two 3" Pickering Governors, Speed Regulating Changer, Automatic Lubrication. 150 Horse Power.
1—96" Murray Chipper, roller bearing, complete with 150 HP, 200 RPM, direct connected synchronous motor, automatic full voltage, starting panel and MG Set. Three sets knives.
All above equipment may be observed in operation and is in good operating condition. Address Box 49-353, care Paper Trade Journal. A-4

FOR SALE

1—250 HP G.E. Mechanical drive variable speed turbine, 125# steam pressure. Direct connected to variable speed line shaft through Falk reduction gear. Will drive paper machine from 75 feet to 800 feet per minute.
1—Grand Drill steam driven Air Compressor 125#.
1—Beloit Yankee dryer 106" face 12' diameter with bearings.
1—Jones pulper for motor drive.
1—Dryer 106" face 48" diameter (Suitable for Pope Reel).
1—Vickery felt conditioner for 101" trim.
1—Vickery felt conditioner for 116" trim.
15—6" & 8" Valley Iron Wks. plug cock stock valves.
Frank P. Lyden, Port Edwards, N. Y. A-4

PAPER COATING MACHINERY MANUFACTURERS — Waxing, Oiling, Carbon, Laboratory Coating and Treating Machines. New improvement. MAYER MACHINE COMPANY, Inc., 1313 Buffalo Road, Rochester 11, N. Y. TF

REBUILT ELECTRICAL MACHINERY

A.C. & D.C. GENERATORS
1000 amp. 60 volt Westgh. SK Welding Gen.
1—150 KW West. SK 125 v. 1200 RPM.
125 KVA 220/3/60 277 RPM West.
150 KW Triumph 250 v. cp.wd. 600 RPM.
150 KW G.E. 550 v. 1100 RPM cp.wd.
1000 amp. 60 v. West. SK Generator

M-G SETS—R. CO.
450 KW G.E. 275 v.—710 HP Syn. 2300 v.
300 KW West. 250 v. 1200 RPM—433 HP Syn. 2300/4600 v.
250 KW West. SK 250 v.—2300 v. Syn.
150 KW West. 125 v. SK—150 HP Ind.
100 KW West. 250 v.—150 HP Syn. 220/440
35 KW G.E. 125 v.—50 HP G.E.
10 KW 125 v.—15 HP Master 220/440.

AIR COMPRESSORS
1575 cfm Ing. Rd PRE2 dir. con. 215 KVA Syn. 2300 v. Water.
755 CFM Chic. Pneu. two stage Belted.
386 cfm 100# Chic. Pneu. 12 x 10 Belted.
245 cu. ft. Ing. Rand belted ERI

AC MOTORS (3 ph. 60 cy.)

HP	Make	Wdg	Spd.	Type
500	Elect. Mcry.	Syn.	120	
300	G.E.	S.R.	450	I M
300	West.	S.R.	600	CW
160	G.E.	S.C.	600	IK
150	G.E.	Syn.	600	ATI
150	G.E.	S.C.	695	KTS62Y
150	West.	S.C.	590	CS
125	West.	Syn.	277	
120	Cr. Wh.	S.R.	290	
100	G.E.	S.R.	450	I M
100	Al.Ch.	S.R.	500	
75	West.	S.C.	865	MB
60	West.	S.C.	1160	CS505
50	A.C.	S.C.	1750	
40	G.E.	S.C.	860	KT
35	G.E.	S.C.	1150	I K
30	Vert. G.E.	S.C.	1150	KT526
25	C.Wh.	S.C.	600	BC304
25	500 v. West.	S.C.	1750	CS365
25	Cr.Wh.	S.C.	865	
25	Cr.Wh.	S.R.	580	1210
20	West.	S.C.	1750	CS343F
15	West	S.C.	1750	CS325
15	L.A.	S.C.	3600	Fr. 324

HP	Make	Wdg	Spd.	Type
10	West.	S.C.	570	CS566C
10	West.	S.C.	870	CS564C
10(6)	West.	S.C.	1200	CS570C
10	West.	S.C.	1750	CS571G
7½	Comm.	S.C.	865	P37N
7½	West.	S.C.	3440	CS254Y
5	West.	S.C.	585	CS516
5	West.	S.C.	150	254
5(2)	West.	S.C.	1200	CS
5/1½	L.A.	S.C.	500/1600	2555
5	Master	S.C.	1125/37	PA
5	Burke	S.C.	420	EM2
3	West.	S.C.	1100	CS
3	West.	S.C.	1750	
2	West.	S.C.	600/1200	CS324
2	550v. West.	S.C.	1750	CS224

AC MAGNETIC STARTERS (3 ph. 60 cy.)
2—700 HP West. 2300 v. Syn. Line Starters.

MONORAIL HOISTS
2—½ Ton Cooper 220/3/60
1—1½ Ton Reading 220/3/60
1—2 Ton Link Belt 220/3/60

MOORHEAD ELECTRICAL MACHINERY CO. **Pittsburgh 19, Pa. • Mayflower 7900**

TELEPHONE
HUMBOLDT 2-2177

CABLE ADDRESS: JACKROSS

ROSS PAPER MACHINERY CO.

265 PASSAIC STREET
NEWARK 4, N. J.

CONVERTING
PAPER MAKING EQUIPMENT

NEW, USED, REBUILT
PAPER AND PULP MACHINERY

1—Pusey & Jones 120" Ball Bearing Fourdrinier Paper Machine. 60" diameter dryers—suction press and suction couch—Spiral Bevel Gear Drives.
1—Pusey & Jones 82" Fourdrinier Machine Complete.
1—7 cylinder 120" Board Machine, 82 Dryers, 42" diameter. Complete with all auxiliaries.
1—6 cylinder 132" Board Machine, 67 Dryers, 42" diameter. Complete with all auxiliaries.

BEATERS

2—Valley Iron 750 lb. Iron Tub—Bronze filled.

BLOWERS

8—Blowers and Mill Exhausters

CALENDER ROLLS

54 Chilled Iron Rolls—Assorted sizes.

CALENDER STACKS

1—104" face 5 roll stack, with drive
1—76" face 7 roll with drive.
1—76" face 3 roll with drive.
1—112" face 7 roll.
1—82" face 5 roll Sandy Hill.

CONVEYOR

1—18½ ft long x 30" wide—with motor.

COUCH ROLLS—BRASS

1—104" face x 18" dia.
1—118" face x 18" dia.
1—150" face x 16" dia.
1—92" face x 19½" diameter.
2—84" face x 21½" diameter.

COUCH ROLLS—RUBBER

1—110" face x 28" dia.—New.
1—139" face x 19" dia.

CYLINDER MOLDS

1—IMPCO 40" diameter x 84" face.
3—36" diameter x 136" face Cylinder molds with vats, couches—ball bearing.
2—74" face x 36" diameter.
1—134" face x 36" diameter, with stainless steel shafts.
1—78" face x 30" diameter.

CYLINDERS AND VATS

1—136" face x 36" dia.—with vats, couch, complete.

DRIVES

1—6C. Reeves Drive. 40-50 h.p.—Ratio 4 to 1.

DRYERS

4—74" face x 28" diameter with gears.
1—143" face x 40" diameter.
6—124" face x 48" diameter.
6—80" face x 36" diameter.
1—72" face x 48" diameter—with gear.
1—84" face x 30" diameter.
18—78" face x 36" diameter, complete with 2 deck frames, gears, bearings and steam joints. Drives, line shaft and felt rolls are available.
1—78" face x 18" diameter with gears and bearings.
2—40" face x 24" diameter—chromium plated.
1—123" face x 16" diameter—Baby Dryer.
11—64½" face—36" diameter with 2 deck frames, gears and bearings.
3—63¼" face—36" diameter—bearings and gears.
2—82¼" face—36" diameter—bearings and gears.
6—96" face x 48" diameter.
95—126" face x 42" diameter.

EXTRACTOR ROLLS—VACUUM

1—Downingtown—64" face x 17" diameter with bearings & stand.

FLAT SCREENS

9—10 plate Sandy Hill.
1—Sandy Hill 8 plate—with scrapers.
1—New Sandy Hill 12 plate, with scrapers and V-belt drive.
1—Montague 6 plate—ball bearing.

FOURDRINIER SECTIONS

1—P & J 136" x 80 ft. ball bearing. Complete from inlet to 22" diameter suction couch. Brass and Rubber covered table rolls. 8 Brass Suction Boxes operated at 1000' per minute.
1—M & W 82" x 49' complete with 3 suction boxes, shake, 3 section presses and size press.

HAMMERMILLS

1—American Hammermill—37" anti friction bearing equipped.

HEAD BOXES

1—118" Bronze Lead Lined. Beloit.

INLETS

1—Veith Inlet for 151" wire with 28" slice. Complete, including drive.
1—86" All bronze—adjustable.
1—141" Beloit complete with distributor roll.

JORDANS

2—Jones Standard, with motor bases and couplings.
1—Jones Standard—ball bearing direct connected to 150 h.p. G.E. 440 volt motor.
1—#3 Miami, for motor drive.
1—Jones Majestic, roller bearing—stainless steel filling—for motor drive.
4—Jones Majestics with base and couplings—bronze filled, 2 sets of new bronze fillings.
3—#3 Appleton with base and coupling—bronze filled.
1—Dillon Horse #2—direct connected 75 h.p. Stainless steel ¼" filling.
1—#4 Smith & Winchester—Ball bearing.

MOTORS

1—Fairbanks Morse — 30 h.p. — 485 r.p.m. — 220/440/360.
1—Reliance 25 h.p. ball bearing, 550 v., 3 phase, 60 cycle—1750 r.p.m.
1—General Electric 150 h.p.—440 v.—3 phase—60 cycle—600 r.p.m.
1—General Electric 200 h.p. induction, 440 v. 3 ph. 60 cyc. 380 r.p.m. with GE starter.
1—General Electric 350 h.p. synchronous type TS 440 v. 3 ph. 60 cyc. 400 r.p.m. with exciter GE starting panel.

PRESS ROLLS

1—110" face x 19" diameter—rubber.
1—101" face x 19½" diameter—rubber.
1—123½" face x 17½" diameter—rubber.
1—112" face x 19" diameter—rubber.
1—122" face x 17½" diameter—brass.
1—117" face x 24" dia.—Brass.
1—84" face x 20" dia.—Rubber.
1—178" face x 22" dia.—Rubber.
2—118" face x 21" dia.—Rubber.
3—147" face x 11¾" dia.—Rubber.
1—74" face x 18" diameter—Rubber.
1—109" face x 17" diameter—Rubber.
1—102" face x 18" diameter—Rubber.
1—119" face x 17" diameter—Brass.
1—78" face x 19" diameter—Brass.
1—53" face x 14" diameter—Brass.
1—53" face x 12" diameter—Iron.
1—55" face x 10" diameter—Iron.
1—74" face x 18" diameter—Iron.
1—73" face x 14" diameter—Iron.
1—102" face x 18" diameter—Brass.

PULLEYS

36—Split cast iron tapered Pulleys.

PULP EQUIPMENT

1—Jigger—1 deck—vibrating screen.
1—Mitts & Merrill #17 Pulpwood chipper.
1—5' Carthage Disc Barker
1—#89 Carthage Ball Bearing Chipper—4 knife.

PULPERS

2—#2 Lannoye Pulpers—with drives.

PUMPS

44—Centrifugal Pumps. Direct connected, Belt Driven. Extended base for motor. Assorted capacities and heads. Most used less than one year.

PUMPS—OPEN IMPELLER

1—Morris open impeller—9" suction—8" discharge—belt driven.
1—Morris Vertical Open Impeller 8 x 6—385 g.p.m. 5 percent stock—80' head—connected to G.E. 15 h. p. 220-440 volt 3 phase—60 cycle—1165 r.p.m.
1—New Gould—ball bearing—6" suction—4" discharge—700 g.p.m.—60' head. Requires 20 h.p. at 1750 r.p.m.
1—New Gould—ball bearing—6" suction—6" discharge—1300 g.p.m.—43' head. Requires 25 h.p. at 1150 r.p.m.
1—New Goulds—ball bearing—8" suction—5" discharge—1200 g.p.m.—60' head. Requires 20 h.p. at 1150 r.p.m.
1—New Gould—ball bearing—8" suction—6" discharge—1000 g.p.m. 40' head. Requires 20 h.p. at 1150 r.p.m.
1—New Gould 6" suction 4" discharge 500 g.p.m. 40' head. Requires 15 h.p. at 1750 r.p.m.
1—Warren—10 x 8. 1000 g.p.m.—30' head—Belt driven.
1—De Laval 6 x 6. 250 g.p.m. 30' head—for motor drive.
1—De Laval—6 x 6. 500 g.p.m. 30' head—for motor drive.

REDUCERS

1—Cleveland 50 h.p. Ratio 10 to 1. Right angle.
1—De Laval 65 h.p. Ratio 2.24 to 1—616 r.p.m.
1—Falk 60 h.p. Ratio 13 to 1, R.p.m. 1470-113. Herringbone gears.

REELS

2—Beloit 110" two bowl Reel.
1—P & J 76" 2 bowl reel.
1—Beloit 132" two bowl upright reel.
1—Beloit 116" two bowl upright reel.

ROLLS

2—18" diameter x 120" face with ball bearings and stands. Bored for steam.
250—Brass, Steel Rolls. Assorted sizes.

ROTARY SCREENS

3—Jones Leitwalk—cylinder 84" face x 28" diameter.
1—#2 Leith-walk-ball bearing.
1—#3A Bird with motor. Used less than 1 year.

SCREW PRESSES

3—Valley Veith Screw Presses Size 2A, with new spare sets of plates.

SHEETERS

3—Hamblet 51" Single Knife with 6 roll back stands and motors.
1—Hamblet 51" Single Knife with 8 roll back stand and motor.
1—Beloit Duplex 104", complete with drive.
1—Hamblet Duplex—136".

SHREDDERS

3—Sprout Waldron Cutters — type F-11 — 30" knives. Used 30 days.

SLITTERS AND WINDERS

3—Pusey & Jones 100" high speed slitters and rewinders.
1—42" Cameron Model 6, with 15 slitters.
1—New 50" Cameron Model 6.
1—Beloit 2 drum 125" with 8 slitters.

STUFF PUMPS

1—Beloit 10 x 20 triplex—with motors and chain drives.
1—Shartle 8½x12 Triplex—Silent Chain Drive.

SUCTION COUCH ROLLS

1—Millspaugh 22" diameter x 138⅝" suction face.
1—Millspaugh 22" diameter x 138" drilled face.
1—Beloit 107" drilled face x 22" diameter. Anti friction bearings.
1—Millspaugh—14½" diameter x 93" drilled face.

SUCTION PRESS ROLLS

1—Downingtown 25" diameter x 100" drilled face.
1—Beloit 22" diameter x 105" drilled face for direct drive. Anti friction bearings.

SUPER CALENDERS

3—7 roll 62" face.
1—7 roll 69" face.
1—7 roll 50" face.

TRIMMERS

1—84" Seybold Provision with motor and five spare knives.
1—60" Uncoreut Trimmer.

VACUUM PUMPS

1—H2 Nash for motor drive.

YANKEE DRYERS

1—Beloit 10' diameter x 132" face with stands, gears, bearings and drive.
1—Beloit 12' diameter x 132" face with stands, gears, bearings and drive.

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1—New Downingtown Suction Press roll, 24" diameter by 110" drilled face. Rubber Covered. Complete with anti-friction bearings and L-7 Nash Vacuum Pump.

1—Two-web Paper Converting Machine Co. Quarter Fold Napkin Machine. 13¼ cut-off. With Embosser and Three color Printer. Capacity up to 30,800 per hour on printed stock.

1—Paper Converting Co.'s M.G.M. 3 web 13½" embossing napkin folder. Capacity 1800 Napkins per minute.

CAMERON SLITTERS

1—42" Type 40.

1—42" Type 6 with constant tension device and slitter grinder.

1—50" and 1—60" Type 28, Model 3D.

1—52" Type 8-S.

1—62" and 1—65" Type 9.

1—62" Type 10-S.

3—62" Type 40-1AF.

1—72" Type 10, Model 6. Ball Bearing. Speeds up to 1500 FPM.

1—40" Kidder Model SL Slitter & Rewinder. Complete with 60 sets of cutters and rewind shafts.

1—60" Kidder Model SH Slitter & Rewinder. Rewinds up to 40" diameter.

1—48" Inman Board Slitter and Rewinder. Rewinds 48" diameter rolls.

Power Paper Cutters: 6 Seybold: 40"—10Z, 54" 20th Century, 54" Holyoke, 56" Dayton, 74" and 84" Seybold. 6 Oswego: 34", 38", 44", 50", 57" and 68". 2 Acme: 32" and 42". 1 White: 44". 1 S&W Undercut: 63".

1—65" and 1—84" waxing machine.

1—Brand New Potdevin #102 Flat and Square Bag Machine, making bags from ¼ to 6 lbs.

3—Potdevin Flat & Square Bag Machines. Models 292, 294 and 391.

1—30" Waldron Embosser, diamond, moire, and canvass patterns.

1—45" German Dornbusch Embossing machine with two sets of embossing rolls.

1—36" and 1—45" Beck Rotary Sheet Cutters with 3 roll backstands and jogger delivery table.

1—50" M&W Single Rotary Sheet Cutter with slitting attachment—3 sets of slitters. M&M Single Layboy—3 partitions and 9-roll triple-deck backstands.

1—72" Hamblet Single Rotary Sheet Cutter with Slitting Attachment, Automatic Layboy and 12-Roll Double-Deck Backstands.

1—82" single Hamblet rotary sheet cutter with layboy and 24 roll backstands.

1—84" Hamblet roller bearing new duplex sheet cutter, Model 28, complete with slitting attachment, six pairs of slitters. With new Hamblet 84" electrically driven duplex layboy and two roll backstands for 38" diameter rolls.

1—96" Clark Aiken anti-friction bearing Single Rotary Sheet Cutter with slitting attachment. Moore & White 5 partition Layboy and 6 roll double-deck backstands. Excellent condition.

2—#2A Bird Screen, copper lined or lead and zinc lined vats.

6—Shartle Washer Breaker Beaters—Rolls 80" x 55".

1—81" Dietz Facial Tissue Paper perforator, 4½" perforation.

2—81" Dietz Toilet Paper Perforators. Sheets 4½ x 4½ and 4½ x 5 and paper towels perforated 7½ and 13½".

1—#4 Hudson Sharp Special Folding Machine, complete with A.C. motor equipment.

1—Heavy duty Miller Ream Wrapping and Sealing Machine for paper from 2 x 8 up to 8 x 15.

2—42" three color Aniline Printing Presses. One Kolback and one Wolverine.

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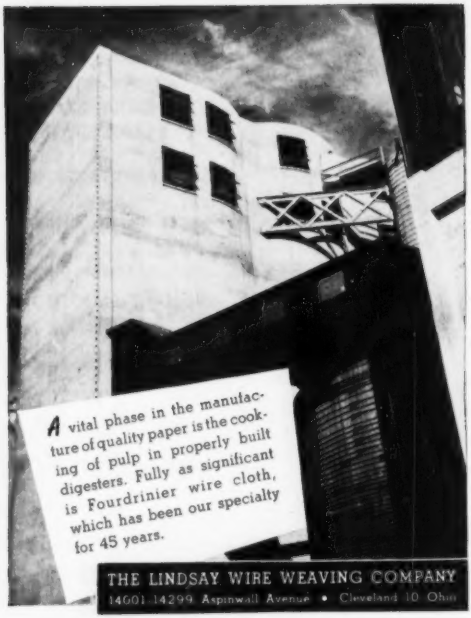
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Industrial Brownhoist Corp.
Link Belt Company
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Ross Engineering Corp., J. O
Shartle Brothers Mch. Co.

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Shartle Brothers Machine Co.
Valley Iron Works
Waldron Corp., John

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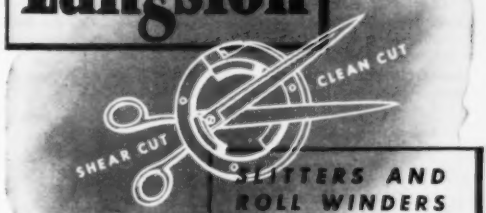

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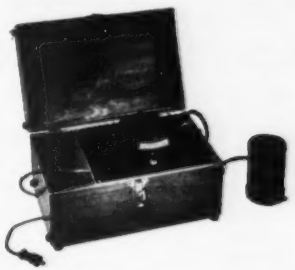

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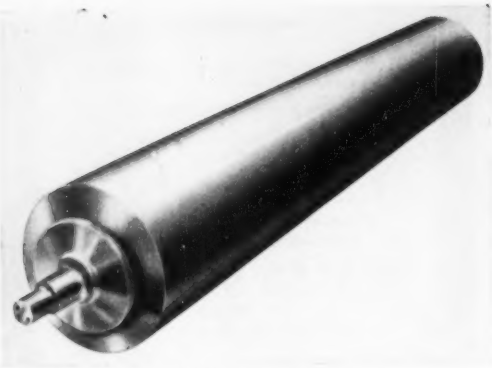

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DIRTEC
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Shartle Brothers Machine Co.

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Black-Clawson Company
Lodding Engrg. Corp.
The Moore & White Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.

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The Youngstown Welding & Engrg. Co.

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Bird Machine Co.
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Downingtown Mfg. Co.
Fairbanks, Morse & Co.
Farrel-Birmingham Co.
General Electric Company
Gibbs-Brower Company, Inc.
Rodney Hunt Machine Co.
Link Belt Company
Moore & White Co.
Murray, D. J., Mfg. Co.
Pusey & Jones Corp.
J. J. Ross Company
Ross Paper Machy. Corp.
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Syco Mfg. Co.
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National Aniline Division, Allied Chemical & Dye Corp.
C. K. Williams & Co.
Witco Chemical Co.

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Ross Engineering Co., J. O

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National Technical Laboratories
Taylor Instrument Companies
Testing Machines, Inc.
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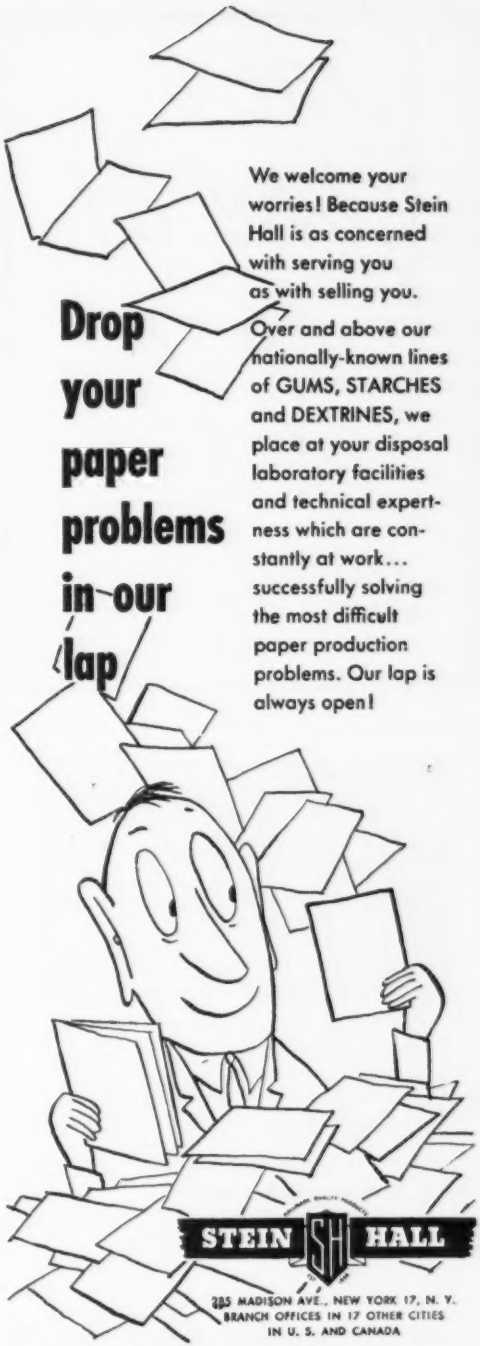
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Rodney Hunt Machine Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
The Smith & Winchester Mfg. Co.

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Bauer Brothers Co.
Dilts Machine Works
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Midwest-Fulton Machine Co.
Morden Machines Co.
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Armstrong Machine Works
Bird Machine Company
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DeZurik Shower Company
The Foxboro Company
General Electric Co.
Johnson Corp.
Leeds & Northrup Company
Midwest-Fulton Machine Co.
Minneapolis-Honeywell Regulator Co.
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Stickle Steam Specialties Co.
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Monsanto Chemical Company
Rohm & Haas Co., Resinous Products Div.

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Gibbs-Brower Company, Inc.
Moore & White Co.
Noble & Wood Machine Co.
Potdevin Machine Co.
Shartle Brothers Machine Co.
Waldron Corp., John
Weber, Herman G.

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Hardinge Company

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Merrick Scale Mfg. Co.
Testing Machines, Inc.
Walker-Goulard-Plehn Co.

SCREEN PLATES

Bird Machine Company
Fitchburg Screen Plate Co.
Magnus Metal Corp.
Morey Paper Mill Supply Co.
Testing Machines, Inc.

SCREENS

Allis-Chalmers Mfg. Co.
American Paper Mchy. & Engrg. Works, Inc.
Appleton Wire Works
Appleton Machine Company
Bird Machine Company
Carthage Machine Co.
Dilts Machine Works, Inc.
Downingtown Mfg. Co.
Gibbs-Brower Company, Inc.
E. D. Jones & Sons Co.
Link Belt Company
Moore & White Co.
D. J. Murray Mfg. Co.
J. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Valley Iron Works Co.

SHEET MACHINES

Gibbs-Brower Company, Inc.
Thomas W. Hall Co.
Suburban Machine Co.
Valley Iron Works Co.

SHOWER PIPES

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DeZurik Shower Company
Downingtown Mfg. Co.
Moore & White Co.
Sandusky Fdy. & Mch. Co.
Shartle Bros. Mach. Co.
Smith & Winchester Mfg. Co.

SHREDDERS

Bauer Brothers Co.
Carthage Machine Co.
Gibbs-Brower Company, Inc.

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American Cyanamid Company, Industrial Chemicals Division
Black-Clawson Company
The Dow Chemical Company
du Pont, E. I., de Nemours & Co.
Glidden Company
Hercules Powder Co.
The Hubinger Co.
Monsanto Chemical Company
National Aluminate Corp.
Philadelphia Quartz Co.
Stein-Hall Co., Inc.

SIZING TESTER

W. & L. E. Gurley
Testing Machines, Inc.

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The Dow Chemical Company
E. I. du Pont de Nemours & Co.
General Dyestuff Corp.
National Aluminate Corp.
Rohm & Haas Co.

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Black-Clawson Company
Cameron Machine Co.
Carthage Machine Co.
Dietz Machine Works
Dilts Machine Works
Downingtown Mfg. Co.
Frank W. Egan & Co.
Gibbs-Brower Company, Inc.
Thomas W. Hall Co., Inc.
Hamblet Machine Co.
Hudson Sharp Machine Co.
Langston Co., Samuel M.
Machinery & Prod. Engrg. Corp.
Moore & White Co.
D. J. Murray Mfg. Co.
Potdevin Machine Co.
J. J. Ross Company
Ross Paper Machy. Co.
The Sandy Hill Iron & Brass Works
Smith & Winchester Mfg. Co.
Valley Iron Works Co.
Waldron Corp., John

SMOKE STACKS

William Allen Son's Company
The Biggs Boiler Works Co.

SPECIAL MACHINERY

Dilts Machine Works.

SPLICING TISSUE

Williams-Gray Co.

SOFTNESS-STIFFNESS TESTER

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Testing Machines, Inc.

SOLUBLE OILS

Adell Chemical Company
American Cyanamid Company, Industrial Chemicals Division
General Dyestuff Corp.
Nopco Chemical Co.

SOLVENTS

Adell Chemical Company

STAINLESS STEEL

American Cast Iron Pipe Co.
Armco Steel Corp.
Michigan Steel Casting Co.
The Midvale Company
U. S. Steel Corp.

STARCH

American Cyanamid Company, Industrial Chemicals Division
A. M. Meincke & Son, Inc.
Clinton Industries, Inc.
The Hubinger Co.
National Starch Products Inc.
Stein-Hall Co., Inc.

STEAM JOINTS

The Moore & White Co.

STEAM SPECIALTIES

Babcock & Wilcox Co.
Cochrane Corp.
Combustion Engrg. Co., Inc.
Davis Engrg. Corp.
Johnson Corp.
Midwest-Fulton Machine Co.
Perfecting Service Corp.
Shartle Bros. Mch. Co.
Stickle Steam Specialties Co.

STEEL

Allegheny Ludlum Steel Corp.
Armco Steel Corp.
Carnegie Illinois Steel Co.
Lukens Steel Company
Midvale Company
D. J. Murray Mfg. Co.
The Sandy Hill Iron & Brass Works
U. S. Steel Corp.

STEEL, CLAD

Babcock & Wilcox Co.
Lukens Steel Company

STEEL TANKS

William Allen Son's Company
The Biggs Boiler Works Co.

STRAPPINGS & STRAPPING MACHINES

The Stanley Works

STUFF CHESTS

Downingtown Mfg. Co.
E. D. Jones & Sons Co.
Midwest-Fulton Machine Co.
Moore & White Co.
Shartle Brothers Machine Co.
Valley Iron Works Co.

SUCTION BOXES

Black-Clawson Company
Downingtown Mfg. Co.
E. D. Jones & Sons Co.
Moore & White Co.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.

SUCTION UNIT

Paper & Industrial Appliances, Inc.

SULPHUR

American Cyanamid Company, Industrial Chemicals Division
Texas Gulf Sulphur Co.
Witco Chemical Company

SULPHUR BURNERS

Valley Iron Works Co.

SULPHUR DIOXIDE

American Cyanamid Co., Calco Chemical Div.
Ansul Chemical Company
Virginia Smelting Co.

SUPERCALENDERS

The Appleton Machine Co.
B. F. Perkins & Son, Inc.

SYNTHETIC LATICES

American Anode Div., The B. F. Goodrich Chem. Co.
The Goodyear Tire & Rubber Company
Nopco Chemical Co.

TACHOMETERS

The Brown Instrument Co.

TAKE-OFF UNITS

Dilts Machine Works (Kohler System).

TALC

American Cyanamid Company, Industrial Chemicals Division
W. H. Loomis Talc Corp.

TANKS

William Allen Son's Company
The Biggs Boiler Works Co.
Cochrane Corp.
Kalamazoo Tank & Silo Co.
The Noble & Wood Machine Co.
B. F. Perkins & Son, Inc.
J. O. Ross Engrg. Corp.
Shartle Brothers Machine Co
Waldron Corp., John

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Testing Machines, Inc.

TENSILE TESTERS
B. F. Perkins & Son, Inc.
Testing Machines, Inc.

THICKENERS, DECKERS AND SAVEALLS
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Bird Machine Company
Bulkley, Dunton Pulp Co., Inc.
Carthage Machine Co.
Dilts Machine Works
Dorr Co.
Downingtown Mfg. Co.
Hardinge Co., Inc.
Moore & White Co.
D. J. Murray Mfg. Co.
Oliver United Filters, Inc.
J. J. Ross Company
Ross Paper Machy. Corp.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Valley Iron Works Co.

TIMBER ROOF TRUSS DESIGNS
Timber Engrg. Co.

TITANIUM
American Cyanamid Co., Calco Chemical Div.
E. I. du Pont de Nemours & Co.
Titanium Pigment Co.
R. T. Vanderbilt Co.
Witco Chemical Company

TOOLS
The Stanley Works
Walworth Company

TRACTOR SHOVELS
Frank G Hough Co.

TRACTORS & TRUCKS
Frank G. Hough Co.
Towmotor Corp.
Clark Equipt. Co., Clark Tractor Div.

TRANSMISSIONS
Link Belt Company

TRAPS
Armstrong Machine Works
Cochrane Corp.
Crane Co.
Johnson Corporation
Shartle Bros. Mch. Co.
Stickle Steam Specialties Co.

TUBES
Babcock & Wilcox Co.
National Tube Co.

TUBING MACHINES
Dilts Machine Works.

TUBING, MECHANICAL
National Tube Co.

TUBS
Rodney Hunt Machine Co.
Shartle Brothers
Valley Iron Works Co.

TURBINES
Allis-Chalmers Mfg. Co.
De Laval Steam Turbine Co.
General Electric Company
Hunt, Rodney, Mach. Co.

TURPENTINE RECOVERY
Foster Wheeler Corp.

UNWINDERS
Dilts Machine Works (Kohler System).

USED EQUIPMENT
Frank H. Davis Company
Gibbs-Brower Co.
Thomas W. Hall Co.
J. J. Ross Company
Ross Paper Machy. Corp.
Shartle Brothers Machine Co.
Suburban Machine Co.

VALVES
Askania Regulator Co.
The Bristol Company
The Brown Instrument Co.
Cochrane Corp.
Crane Company
Dilts Machine Works
The Foxboro Company
E. D. Jones & Sons Co.
Magnus Metal Corp.
D. J. Murray Mfg. Co.
William Powell Co.
Record Fdry. & Mch. Co.
The Sandy Hill Iron & Brass Wks.
Shartle Brothers Machine Co.
Stickle Steam Specialties Co.
Taylor Instrument Companies
Trimbey Mach. Wks.
Valley Iron Works Co.
Walworth Company

WASHERS
Bird Machine Company
Downingtown Mfg. Co.
Gibbs-Brower Company, Inc.
E. D. Jones & Sons Co.
Moore & White Co.
Oliver United Filters
The Sandy Hill Iron & Brass Wks.
Rodney Hunt Machine Co.
Shartle Brothers Machine Co.
Valley Iron Works Co.

WASTE TREATING EQUIPMENT
Alhydro, Inc.
The Dorr Company

WATER CONDITIONING
Alhydro, Inc.
Calgon, Inc.
Cochrane Corp.
General Dyestuff Corp.
National Aluminate Corp.

WATER DISPERSIONS
Alhydro, Inc.
American Anode, Inc.
Rohm & Haas Co., Resinous Products Div.

WATER FINISH EQUIPMENT
Dilts Machine Works.

WAXES
Hercules Powder Co.

WAXING MACHINERY
Black-Clawson Co.
Dilts Machine Works
Frank W. Egan & Co.
Gibbs-Brower Company, Inc.
The Mayer Machine Co.
Potdevin Machine Co.
Shartle Brothers Machine Co.
Waldron Corp., John
Weber, Herman G.

WEB TENSION CONTROL
Dilts Machine Works (Kohler System).

WELDING EQUIPMENT
General Electric Company
Walworth Company

WET MACHINES
Black-Clawson Co.
Carthage Machine Co.
Downingtown Mfg. Co.
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Moore & White Co.
Pusey & Jones Company
J. J. Ross Company
Ross Paper Machy. Corp.
The Sandy Hill Iron & Brass Works
Shartle Brothers Machine Co.
Smith & Winchester Mfg. Co.
Valley Iron Works Co.

WETTING AGENTS
American Cyanamid Company, Industrial Chemicals Division
General Dyestuff Corp.
Hercules Powder Co.
Monsanto Chemical Company
Nopco Chemical Co.
Rohm & Haas Co.
Wyandotte Chemicals Corp.

WHITE WATER HEATERS, AUTOMATIC SELF CLEANING TYPE
Davis Engineering Corp.

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The Appleton Machine Co.
Black-Clawson Company
Cameron Machine Co.
Dilts Machine Works
Dilts Machine Works (Kohler System)
Downingtown Mfg. Co.
Frank W. Egan & Co.
Gibbs-Brower Company, Inc.
Thomas W. Hall Co.
Hudson-Sharp Mach. Co.
Langston Co., Samuel M.
Moore & White Co.
Paper Converting Mch. Co.
Potdevin Machine Co.
Pusey & Jones Corp.
J. J. Ross Company
Ross Paper Machy. Corp.
The Sandy Hill Iron & Brass Works
Smith & Winchester Mfg. Co.
Suburban Machine Co.
Waldron Corp., John

WINDING ROLL CHANGERS
Dilts Machine Works (Kohler System).

WIRE BRUSHES
M. W. Jenkins Sons Inc.

WIRES
Appleton Wire Works
Bulkley, Dunton Pulp Co., Inc.
International Wire Works
Lindsay Wire Weaving Co.
Williams-Gray Co.

WIRE BRUSHES
Williams-Gray Co.

WOOD SPLITTERS
The Appleton Machine Co.
Carthage Machine Co.

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HUGHES PRINTING CO.
EAST STROUDSBURG, PA.

1st Lesson in Flow Control – the Valve *MUST* suit the Service

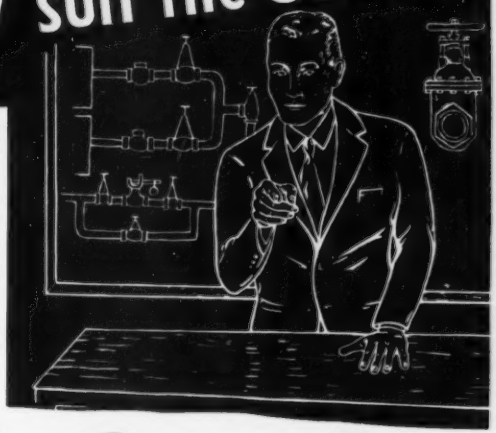

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Fig. 1847 — 200-pound Stainless Steel Swing Check Valve. Screwed-in cap and regrindable, renewable disc.

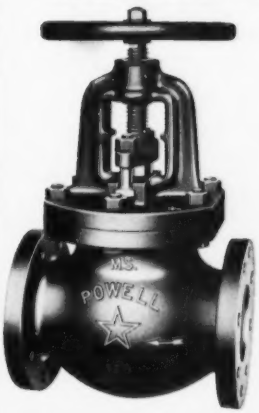

Fig. 241—125-pound Iron Body Bronze Mounted Globe Valve with outside screw rising stem, bolted flanged yoke, regrindable, renewable bronze seat and disc.

Fig. 150—150-pound Bronze Globe Valve with screwed ends, union bonnet and renewable composition disc.

Fig. 375 — 200-pound Bronze Gate Valve. Screwed ends, union bonnet, inside screw rising stem and renewable "Powellium" wear-resisting nickel-bronze disc.

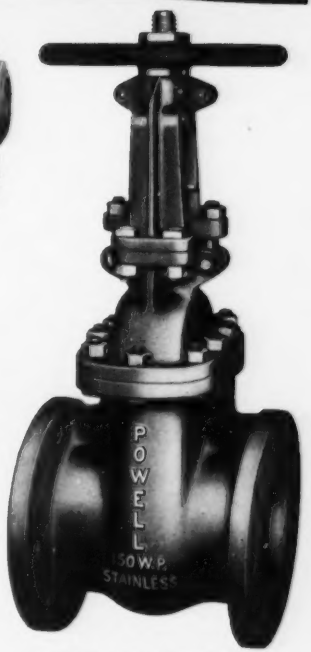

Fig. 2453-G—Large 150-pound Stainless Steel Gate Valve. Bolted flanged yoke-bonnet, outside screw rising stem and tapered solid wedge. Made in sizes 5" to 30", inclusive.

The Wm. Powell Co., Cincinnati 22
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